United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Purdue University Agricultural Experiment Station

Soil Survey of Harrison County, Indiana

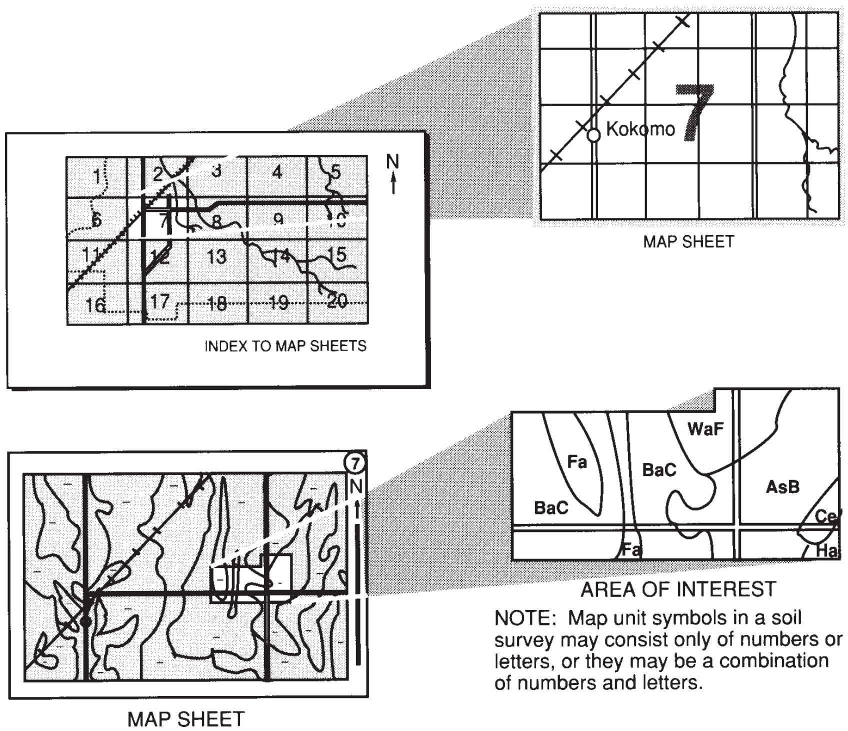
How To Use This Soil Survey

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and go to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Go to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Purdue University Agricultural Experiment Station. It is part of the technical assistance furnished to the Harrison County Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 2006. Soil names and descriptions were approved in 2007. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2007. The most current official data are available on the Internet.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Nondiscrimination Statement

Cover Photo Caption

Karst landscape in an area of Crider silt loam, karst, undulating. Karst landscapes must be managed carefully to avoid ground-water contamination.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued 2009

Foreword

Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Jane Hardisty
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Harrison County, Indiana

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Harrison County is in the extreme south-central part of Indiana (fig. 1). It has an area of 311,053 acres, or about 486 square miles. The county is within parts of three Major Land Resource Areas: the Kentucky and Indiana Sandstone and Shale Hills and Valleys, Northwest (120B); the Kentucky and Indiana Sandstone and Shale Hills and Valleys, Northeast (120C); and the Highland Rim and Pennyroyal (122). Corydon, the county seat and largest town (with a population of about 2,751 in 2007) is in the central part of the county. In 2007, the population of the county was about 36,810.

The land in the county is primarily in farmland or urban development. The primary farm enterprises are the growing of cash grain crops and the production of livestock. Corn, soybeans, and winter wheat are the main cash grain crops. Tobacco is also grown. Hogs and beef cattle are the main livestock raised, and there are a few dairy, poultry, truck crop, and goat operations in the county. About 35 percent of the county is cropland, 15 percent is pasture, and 40 percent is woodland. The rest is used for urban, industrial, and other uses.

A part of this survey gives information on nonfarm uses of soils. The areas around cities and towns have been annexed, and the land use is rapidly being changed. Some areas lend themselves to urban development with few limitations, but other areas have so many limitations that nonfarm uses are questionable.

This soil survey updates and refines the soil survey of Harrison County published in 1975 (USDA/SCS, 1975). It provides larger maps, which show the soils in greater detail. It also provides additional information about soil interpretations.

General Nature of the Survey Area

This section gives general information about the physical and cultural features of the county. It describes history and development; physiography, relief, and drainage; and climate.

Figure 1.—Location of Harrison County in Indiana.

History and Development

The earliest evidence of human occupation in the survey area is found in artifacts dating to more than 4,000 years ago. The native Indians planted corn on the rich bottomlands and hunted wild game, which was abundant on the rolling, wooded uplands.

The first permanent settlement in Harrison County was established in about 1800 near the present town of Lanesville. The settlers came to Harrison County by crossing the Ohio River from Kentucky. The Ohio River played a major role in the early development of the county and remains important. It forms a natural barrier between Indiana and Kentucky and serves as a major transportation route, carrying grain, coal, and petroleum products. It is also used for recreation.

In 1808, Harrison County was organized, and Corydon became the county seat. From 1813 to 1816, Corydon was the capital of the Indiana Territory. Corydon was also the first capital of the State of Indiana from 1816 until 1825, when the capital was moved to Indianapolis. Palmyra, with a population of 710, is the next largest town in the county, followed by Lanesville, Milltown, Elizabeth, and Crandall.

Physiography, Relief, and Drainage

Harrison County lies in an unglaciated area west of the Knobstone Escarpment and east of the Crawford Uplands. Most of the soils formed in material weathered from limestone, but some formed from the weathering of sandstone and siltstone. The different types of bedrock are visible throughout the county, especially on valley walls and steep bluffs. Major streams flow on the hard bedrock in many areas. Though the Wisconsin glacier did not reach the survey area, it influenced the formation of lacustrine soils near the mouths of the Blue River, Indian Creek, and Buck Creek near the Ohio River. This fine-textured, calcareous material deposited by drift of Wisconsin age was carried down the Ohio River in meltwaters and deposited in the stream

valleys. The clays settled out, leaving broad plains. Recent erosion has dissected these plains, leaving them several feet above the current streambed. The sedimentary rocks consist of layers of limestone, siltstone, sandstone, and shale, all of which range from a few feet to several hundred feet in thickness. These formations have a downward tilt to the west of about 25 to 30 feet per mile. Proceeding westward, interbedded olive brown siltstone and shale are exposed. This area is the Norman Upland region. It is also called the Knobstone Escarpment. Farther west, limestone of the Lower Mississippian period is exposed in the Mitchell Plain region. The soils are typically redder and have more clay, and these areas typically have sinkholes. If there are enough sinkholes, the area is said to have karst topography. Nearly level flood plains are along the streams of all the physiographic regions. Continuing west to the county line, soils that developed from sandstone and shale are in the formation called the Crawford Upland region.

The highest elevation in the county is about 972 feet above sea level, in an area near the Ohio River and 5 miles northeast of Elizabeth. The lowest is about 380 feet above sea level in an area along the Ohio River where it leaves Harrison County. The entire county is drained by the Ohio River and its tributaries. The main streams and tributaries that drain into the Ohio River are the Blue River, Indian Creek, Little Indian Creek, Mosquito Creek, Little Mosquito Creek, Buck Creek, Middle Fork, Buck Creek, and Brush Heap Creek.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Salem, Indiana, in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 32.7 degrees F and the average daily minimum temperature is 23.3 degrees. The lowest temperature on record, which occurred at Salem on February 2, 1951, was -32 degrees. In summer, the average temperature is 73.9 degrees and the average daily maximum temperature is 85.6 degrees. The highest temperature, which occurred at Salem on July 14, 1954, was 105 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 45.29 inches. Of this, about 27.0 inches, or about 59 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 7.20 inches at Salem on July 20, 1988. Thunderstorms occur on about 45 days each year, and most occur between May and August.

The average seasonal snowfall is 19.7 inches. The greatest snow depth at any one time during the period of record was 20 inches, recorded on February 1, 1978. On an average, 21 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 12.0 inches, recorded on February 1, 1966.

The average relative humidity in mid-afternoon is about 56 percent. Humidity is higher at night, and the average at dawn is about 81 percent. The sun shines 66 percent of the time possible in summer and 43 percent in winter. The prevailing wind is from the south for most of the year; it is from the northwest during February and March. Average windspeed is highest, around 10 miles per hour, from January through April.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the degree of erosion; the general pattern of drainage; and the kinds of crops and native plants. To study the soil profile, which is the sequence of natural layers, or horizons, soil scientists examine the soil with the aid of a soil probe and auger. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-geomorphologic relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Fieldwork in Harrison County consisted primarily of soil transects conducted by soil scientists. Soil transects are a systematic way to characterize the composition of the specific soil types within a map unit. Soil borings are taken at regular intervals. Some areas, mainly soils on flood plains and terraces, were traversed and, where needed, soil line boundaries were adjusted from the original boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features. These results, along with other observations, enable the soil scientists to assign the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Data are assembled from other sources, such as research information, production records, and field experience of specialists.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a

high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

Aerial photographs used for fieldwork in this survey were taken in 1992 and included stereoscopic coverage of most of the county. Adjustments to the original soil boundaries were drawn on these photographs. Soil scientists also studied U.S. Geological Survey topographic maps enlarged to a scale of 1:12,000. These enlarged topographic maps were used to help adjust the original soil boundary lines in forestland areas.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape. In some cases a minor soil component may be referred to that was not correlated in Harrison County, but that has been mapped within one of the three Major Land Resource Areas (MLRAs) of which Harrison County is a part.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soil that have profiles that are almost alike make up a *soil series.* Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series

can differ in texture of the surface layer, slope, stoniness, degree of erosion, frequency of flooding, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases.* Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Pekin silt loam, 2 to 6 percent slopes, eroded, is a phase of the Pekin series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Vertrees-Haggatt-Caneyville complex, karst, hilly, severely eroded, is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarry, is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey area.

AeoB2—Alford silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Loess hills
Position on landform: Summits and shoulders

Map Unit Composition

86 percent Alford and similar soils
14 percent moderately sloping Alford and similar soils on shoulders and backslopes

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Alford Soil

Parent material: Loess
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Low

Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

AeoC2—Alford silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Loess hills
Position on landform: Backslopes and shoulders

Map Unit Composition

90 percent Alford and similar soils
10 percent gently sloping Alford and similar soils on summits and shoulders

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Alford Soil

Parent material: Loess
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

AgzB—Apalona-Zanesville silt loams, 2 to 6 percent slopes

Setting

Landform: Hills underlain with Mississippian sandstone and shale bedrock
Position on landform: Summits and shoulders

Map Unit Composition

47 percent Apalona and similar soils
31 percent Zanesville and similar soils
10 percent moderately sloping Deuchars, eroded and similar soils on shoulders and backslopes of hills and structural benches
4 percent moderately sloping Apalona, eroded and similar soils on shoulders and backslopes
4 percent somewhat poorly drained Johnsburg and similar soils on summits
4 percent moderately sloping Zanesville, eroded and similar soils on shoulders and backslopes

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Apalona Soil

Parent material: Loess and the underlying clayey and loamy residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to fragipan; 72 to 100 inches to paralithic bedrock
Available water capacity: About 7.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Properties and Qualities of the Zanesville Soil

Parent material: Loess over loamy residuum over Mississippian shale and sandstone bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to fragipan; 40 to 80 inches to lithic bedrock
Available water capacity: About 8.1 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

BbhA—Bartle silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

83 percent Bartle and similar soils
10 percent poorly drained Peoga, frequently ponded and similar soils in depressions
5 percent moderately well drained, gently sloping Pekin, eroded and similar soils on risers
2 percent Bartle, rarely flooded and similar soils on footslopes

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained

Properties and Qualities of the Bartle Soil

Parent material: Loess and silty alluvium
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Highest perched seasonal high water table (depth, months): 0.5 foot; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

BcrAW—Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Alluvial fans and flood plains

Map Unit Composition

89 percent Beanblossom and similar soils
6 percent Beanblossom, frequently flooded and similar soils on alluvial fans and flood plains
5 percent moderately well drained Wilbur and similar soils on flood plains

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Beanblossom Soil

Parent material: Loamy-skeletal alluvium over the underlying Mississippian siltstone or shale bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate to rapid

Permeability range below a depth of 40 inches: Impermeable to rapid
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Available water capacity: About 7.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest apparent seasonal high water table (depth, months): 3.3 feet; January, February, and March
Ponding: None
Most likely flooding (frequency, months): Occasional; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

BdoA—Bedford silt loam, 0 to 2 percent slopes

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Summits

Map Unit Composition

85 percent Bedford and similar soils
5 percent gently sloping Bedford and similar soils on summits and shoulders
5 percent somewhat poorly drained Bromer and similar soils in depressions within karst landscapes
5 percent well drained, gently sloping Crider and similar soils on summits and shoulders

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland (fig. 2)

Properties and Qualities of the Bedford Soil

Parent material: Loess, loamy materials, and the underlying paleosol in clayey residuum over Mississippian limestone bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 20 to 38 inches to fragipan
Available water capacity: About 7.1 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: Medium

Figure 2.—No-till corn growing on Bedford silt loam, 0 to 2 percent slopes. Using no-till helps to conserve soil moisture and improve soil tilth.

Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

BdoB—Bedford silt loam, 2 to 6 percent slopes

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Summits and shoulders (fig. 3)

Map Unit Composition

85 percent Bedford and similar soils
10 percent well drained Crider and similar soils on summits and shoulders
5 percent somewhat poorly drained, nearly level Bromer and similar soils in depressions on karst landscapes

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Bedford Soil

Parent material: Loess, loamy materials, and the underlying paleosol in clayey residuum over Mississippian limestone bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 20 to 38 inches to fragipan
Available water capacity: About 7.1 inches to a depth of 60 inches

Figure 3.—A grassed waterway constructed on Bedford silt loam, 2 to 6 percent slopes. The waterway and the use of no-till cropping systems reduce sheet and rill erosion.

Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

BkeC2—Bloomfield-Alvin complex, 6 to 15 percent slopes, eroded

Setting

Landform: Dunes
Position on landform: Shoulders and backslopes

Map Unit Composition

55 percent Bloomfield and similar soils
40 percent Alvin and similar soils
5 percent well drained, gently sloping Alford and similar soils on summits and shoulders of loess hills

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Bloomfield Soil

Parent material: Eolian sands
Drainage class: Somewhat excessively drained
Permeability range to a depth of 40 inches: Moderately rapid or rapid
Permeability range below a depth of 40 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.9 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Low
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Very high

Properties and Qualities of the Alvin Soil

Parent material: Loamy and sandy eolian deposits
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately rapid or rapid
Permeability range below a depth of 40 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Moderate
Wind erosion susceptibility: High

BuoA—Bromer silt loam, 0 to 2 percent slopes

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Interfluves and depressions within karst landscapes

Map Unit Composition

85 percent Bromer and similar soils
10 percent moderately well drained Bedford and similar soils on summits
5 percent poorly drained Laconia and similar soils in depressions

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained

Properties and Qualities of the Bromer Soil

Parent material: Loess and the underlying paleosol in clayey residuum over Mississippian limestone bedrock
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 28 to 51 inches to fragipan
Available water capacity: About 8.9 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 0.5 foot; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

BvsG—Brussels-Rock outcrop complex, 35 to 90 percent slopes, rubbly

Setting

Landform: Hills underlain with Mississippian limestone bedrock (fig. 4)
Position on landform: Backslopes and footslopes

Map Unit Composition

65 percent Brussels and similar soils
25 percent Rock outcrop on escarpments
10 percent moderately deep Caneyville and similar soils

Interpretive Groups

Land capability classification: Brussels—7e; Rock outcrop—none assigned
Prime farmland: Not prime farmland

Properties and Qualities of the Brussels Soil

Parent material: Colluvium over residuum weathered from Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate or moderately rapid
Permeability range below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.8 inches to a depth of 60 inches
Organic matter content of surfaceayer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None

Figure 4.—Landform of Brussels-Rock outcrop complex, 35 to 90 percent slopes, rubbly, showing stones and boulders on the surface and rock outcrop (in the background).

Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and low for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Very low

CbrD2—Caneyville-Haggatt-Knobcreek silt loams, karst, hilly, eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes and shoulders

Map Unit Composition

35 percent Caneyville and similar soils
30 percent Haggatt and similar soils
15 percent Knobcreek and similar soils
10 percent Caneyville, severely eroded and similar soils on backslopes
5 percent moderately sloping Crider and similar soils on backslopes, shoulders, and summits between sinkholes
5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: Caneyville—6e; Haggatt and Knobcreek—4e
Prime farmland: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.7 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess over clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Knobcreek Soil

Parent material: Loess over clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None

Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

CbsD3—Caneyville-Haggatt-Knobcreek complex, karst, hilly, severely eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes and shoulders

Map Unit Composition

40 percent Caneyville and similar soils
26 percent Haggatt and similar soils
17 percent Knobcreek and similar soils
5 percent Caneyville, eroded and similar soils on shoulders and backslopes
5 percent moderately sloping Crider and similar soils on shoulders and backslopes
5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes
2 percent Rock outcrop on escarpments

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderately rapid
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.5 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess over clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained

Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 5.8 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Knobcreek Soil

Parent material: Loess over clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.6 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

CbxD4—Caneyville-Haggatt silty clay loams, karst, rolling, very severely eroded, very rocky

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock (fig. 5)
Position on landform: Backslopes

Map Unit Composition

35 percent Caneyville and similar soils
30 percent Haggatt and similar soils
15 percent Knobcreek, severely eroded and similar soils on backslopes
10 percent moderately sloping Crider, severely eroded and similar soils on shoulders
5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes
5 percent Rock outcrop on escarpments

Figure 5.—Landform of Caneyville-Haggatt silty clay loams, karst, rolling, very severely eroded, very rocky. Use and management of this map unit is complicated by the very severe erosion and indurated limestone.

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Available water capacity: About 4.5 inches to a depth of 60 inches
Organic matter content of surface layer: 0.1 to 1.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess over clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 5.6 inches to a depth of 60 inches
Organic matter content of surface layer: 0.1 to 1.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

CcaG—Caneyville-Rock outcrop complex, 25 to 60 percent slopes

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes

Map Unit Composition

53 percent Caneyville and similar soils
15 percent Rock outcrop on escarpments
12 percent very deep, moderately steep Crider and similar soils on shoulders and backslopes
10 percent deep Haggatt and similar soils on backslopes
5 percent shallow Corydon and similar soils on backslopes
5 percent very deep, moderately steep Knobcreek and similar soils on backslopes

Interpretive Groups

Land capability classification: Caneyville—7e; Rock outcrop—none assigned
Prime farmland: Not prime farmland

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderately rapid
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.8 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 4.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Very high
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

CtaB—Crider silt loam, karst, undulating

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Summits, shoulders, and backslopes

Map Unit Composition

75 percent Crider and similar soils
10 percent Knobcreek, eroded and similar soils on backslopes
10 percent Vertrees, eroded and similar soils on backslopes
5 percent moderately well drained Bedford and similar soils on shoulders and summits

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Crider Soil

Parent material: Loess, loamy materials, and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 10.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Low

Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

CteC2—Crider-Vertrees silt loams, karst, rolling, eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

50 percent Crider and similar soils
25 percent Vertrees and similar soils
10 percent strongly sloping Caneyville and similar soils on backslopes
10 percent Haggatt, severely eroded and similar soils on backslopes
5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Crider Soil

Parent material: Loess, loamy materials, and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Vertrees Soil

Parent material: Thin loess and clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.6 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None

Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

CtwB—Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes

Setting

Landform: Hills underlain by Mississippian limestone bedrock
Position on landform: Summits and shoulders

Map Unit Composition

39 percent Crider and similar soils
29 percent Bedford and similar soils
28 percent Navilleton and similar soils
4 percent well drained Knobcreek, eroded and similar soils on summits, shoulders, and backslopes

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Crider Soil

Parent material: Loess, loamy materials, and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 10.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Properties and Qualities of the Bedford Soil

Parent material: Loess, loamy material, and a paleosol in clayey residuum over Mississippian limestone bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 20 to 38 inches to fragipan
Available water capacity: About 7.1 inches to a depth of 60 inches

Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Properties and Qualities of the Navilleton Soil

Parent material: Loess over clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Impermeable to moderately rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

DeaC2—Deuchars-Apalona-Wellston silt loams, 6 to 12 percent slopes, eroded

Setting

Landform: Hills and structural benches underlain with Mississippian sandstone and shale bedrock
Position on landform: Shoulders and backslopes

Map Unit Composition

28 percent Deuchars and similar soils
23 percent Apalona and similar soils
23 percent Wellston and similar soils
10 percent moderately well drained Zanesville and similar soils on backslopes and shoulders on hills
5 percent moderately well drained, strongly sloping Ebal and similar soils on backslopes and shoulders of hills and structural benches
4 percent Apalona, severely eroded and similar soils on backslopes and shoulders of hills and structural benches
4 percent Deuchars, severely eroded and similar soils on backslopes and shoulders of hills and structural benches
3 percent Wellston, severely eroded and similar soils on backslopes of hills

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Deuchars Soil

Parent material: Loess or silty colluvium and the underlying clayey residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 60 to 80 inches to paralithic bedrock
Available water capacity: About 8.9 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, March, April, and December
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Apalona Soil

Parent material: Loess and the underlying clayey and loamy residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to fragipan; 72 to 100 inches to paralithic bedrock
Available water capacity: About 7.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Wellston Soil

Parent material: Loess over loamy residuum over Mississippian sandstone and shale bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 40 to 72 inches to paralithic bedrock

Available water capacity: About 8.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

DeaC3—Deuchars-Apalona-Wellston silt loams, 6 to 12 percent slopes, severely eroded

Setting

Landform: Hills and structural benches underlain with Mississippian sandstone and shale bedrock
Position on landform: Backslopes and shoulders

Map Unit Composition

28 percent Deuchars and similar soils
23 percent Apalona and similar soils
23 percent Wellston and similar soils
10 percent moderately well drained Zanesville and similar soils on shoulders and backslopes of hills
5 percent moderately well drained, clayey textured Ebal and similar soils on shoulders and backslopes of hills and structural benches
4 percent Apalona, eroded and similar soils on shoulders and backslopes of hills and structural benches
4 percent Deuchars, eroded and similar soils on shoulders and backslopes of hill and structural benches
3 percent Wellston, eroded and similar soils on shoulders and backslopes of hills and structural benches

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland

Properties and Qualities of the Deuchars Soil

Parent material: Loess or silty colluvium and the underlying clayey residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 60 to 80 inches to paralithic bedrock
Available water capacity: About 9.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, March, April, and December

Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Apalona Soil

Parent material: Loess and the underlying clayey and loamy residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 15 to 24 inches to fragipan; 72 to 100 inches to paralithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Very high
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Wellston Soil

Parent material: Loess over loamy residuum over Mississippian sandstone and shale bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 40 to 72 inches to paralithic bedrock
Available water capacity: About 7.8 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

EbhD2—Ebal-Gilpin-Wellston silt loams, 10 to 22 percent slopes, eroded

Setting

Landform: Hills and structural benches underlain with Mississippian sandstone and shale bedrock
Position on landform: Shoulders and backslopes

Map Unit Composition

25 percent Ebal and similar soils
20 percent Gilpin and similar soils
20 percent Wellston and similar soils
15 percent moderately well drained Deuchars and similar soils on shoulders and backslopes of hills and structural benches
7 percent Ebal, severely eroded and similar soils on shoulders and backslopes of hills and structural benches
6 percent moderately well drained Kitterman and similar soils on shoulders and backslopes of hills and structural benches
4 percent moderately well drained Apalona and similar soils on shoulders and backslopes of hills and structural benches
3 percent well drained Haggatt, severely eroded and similar soils on backslopes of hills underlain with limestone

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland

Properties and Qualities of the Ebal Soil

Parent material: Loamy colluvium over clayey residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Impermeable or very slow
Depth to restrictive feature: 50 to 90 inches to paralithic bedrock
Available water capacity: About 7.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, March, April, and December
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Gilpin Soil

Parent material: Loamy residuum over Mississippian shale and sandstone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Impermeable to moderate

Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Available water capacity: About 4.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Wellston Soil

Parent material: Loess over loamy residuum over Mississippian shale bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Available water capacity: About 8.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

EbhD3—Ebal-Gilpin-Wellston silt loams, 10 to 22 percent slopes, severely eroded

Setting

Landform: Hills and structural benches underlain with Mississippian sandstone and shale bedrock
Position on landform: Shoulders and backslopes

Map Unit Composition

25 percent Ebal and similar soils
22 percent Gilpin and similar soils
21 percent Wellston and similar soils
14 percent moderately well drained Deuchars and similar soils on shoulders and backslopes of hills and structural benches
6 percent moderately well drained Kitterman and similar soils on shoulders and backslopes of hills and structural benches
5 percent Ebal, eroded and similar soils on shoulders and backslopes of hills and structural benches

4 percent well drained Haggatt and similar soils on shoulders and backslopes of hills and sinkholes underlain by limestone
3 percent moderately well drained Apalona, eroded and similar soils on backslopes of hills

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Ebal Soil

Parent material: Loamy colluvium over clayey residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Impermeable or very slow
Depth to restrictive feature: 50 to 80 inches to paralithic bedrock
Available water capacity: About 6.7 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, March, April, and December
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Very high
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Gilpin Soil

Parent material: Loamy residuum over Mississippian shale and sandstone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Impermeable to moderate
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Available water capacity: About 3.7 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Wellston Soil

Parent material: Loess over loamy residuum over Mississippian shale bedrock

Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Available water capacity: About 7.8 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

EepA—Elkinsville silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

95 percent Elkinsville and similar soils
5 percent moderately well drained Pekin and similar soils on treads

Interpretive Groups

Land capability classification: 1
Prime farmland: All areas are prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Low
Wind erosion susceptibility: Slight

EepB2—Elkinsville silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on landform: Treads and risers

Map Unit Composition

95 percent Elkinsville and similar soils
5 percent moderately well drained Pekin and similar soils on treads and risers

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

EepC2—Elkinsville silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Stream terraces
Position on landform: Risers

Map Unit Composition

90 percent Elkinsville and similar soils
10 percent Elkinsville, severely eroded and similar soils on risers

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained

Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

EepGQ—Elkinsville silt loam, 25 to 60 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on landform: Risers

Map Unit Composition

86 percent Elkinsville and similar soils
14 percent loamy textured Millstone and similar soils

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

EesA—Elkinsville-Millstone complex, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

52 percent Elkinsville and similar soils
43 percent Millstone and similar soils
5 percent moderately well drained Sciotoville and similar soils on treads

Interpretive Groups

Land capability classification: 1
Prime farmland: All areas are prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

Properties and Qualities of the Millstone Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

EesB—Elkinsville-Millstone complex, 2 to 6 percent slopes

Setting

Landform: Stream terraces
Position on landform: Treads and risers

Map Unit Composition

55 percent Elkinsville and similar soils
40 percent Millstone and similar soils
5 percent moderately well drained Sciotoville, eroded and similar soils on treads and risers

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Properties and Qualities of the Millstone Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

EesC2—Elkinsville-Millstone complex, 6 to 12 percent slopes, eroded

Setting

Landform: Stream terraces
Position on landform: Risers

Map Unit Composition

50 percent Elkinsville and similar soils
40 percent Millstone and similar soils
10 percent moderately well drained Sciotoville and similar soils on treads and risers

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Millstone Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

EesFQ—Elkinsville-Millstone complex, 18 to 40 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on landform: Risers

Map Unit Composition

60 percent Elkinsville and similar soils
40 percent Millstone and similar soils

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Millstone Soil

Parent material: Loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: High

Water erosion susceptibility: High
Wind erosion susceptibility: Slight

GacAW—Gatchel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Alluvial fans and flood plains

Map Unit Composition

88 percent Gatchel and similar soils
12 percent well drained Haymond and similar soils on flood plains

Interpretive Groups

Land capability classification: 3w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Gatchel Soil

Parent material: Loamy-skeletal alluvium
Drainage class: Somewhat excessively drained
Permeability range to a depth of 40 inches: Slow to rapid
Permeability range below a depth of 40 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.1 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Occasional; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and low for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Low
Wind erosion susceptibility: Slight

GbgB2—Gatton silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Hills underlain with Mississippian sandstone bedrock of the Bethel Formation
Position on landform: Summits and shoulders

Map Unit Composition

90 percent Gatton and similar soils
10 percent well drained Sonora and similar soils on summits and shoulders

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Gatton Soil

Parent material: Loess and unconsolidated material derived from Mississippian sandstone of the Bethel Formation
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 20 to 36 inches to fragipan
Available water capacity: About 7.1 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

GbgC2—Gatton silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Hills underlain with Mississippian sandstone bedrock of the Bethel Formation
Position on landform: Backslopes and shoulders

Map Unit Composition

85 percent Gatton and similar soils
10 percent well drained Sonora and similar soils on backslopes and shoulders
5 percent Gatton, severely eroded and similar soils on backslopes and shoulders

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Gatton Soil

Parent material: Loess and unconsolidated material derived from Mississippian sandstone of the Bethel Formation
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 20 to 36 inches to fragipan
Available water capacity: About 7.1 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High

Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

GbgC3—Gatton silt loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Hills underlain with Mississippian sandstone bedrock of the Bethel Formation
Position on landform: Shoulders and backslopes

Map Unit Composition

85 percent Gatton and similar soils
10 percent well drained Sonora and similar soils on shoulders and backslopes
5 percent gently sloping Gatton, eroded soils on summits and shoulders

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland

Properties and Qualities of the Gatton Soil

Parent material: Loess and unconsolidated material derived from Mississippian sandstone of the Bethel Formation
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 20 to 36 inches to fragipan
Available water capacity: About 7.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest perched seasonal high water table (depth, months): 1.0 foot; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Very high
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

GfcF—Gilpin-Tipsaw-Ebal complex, 18 to 35 percent slopes, stony

Setting

Landform: Hills and structural benches underlain with Mississippian sandstone and shale bedrock
Position on landform: Backslopes

Map Unit Composition

27 percent Gilpin and similar soils
22 percent Tipsaw and similar soils
20 percent Ebal and similar soils
14 percent well drained Wellston, eroded and similar soils on backslopes on hills and structural benches
9 percent somewhat excessively drained Gatchel, occasionally flooded and similar soils on alluvial fans and flood plains
4 percent moderately well drained Deuchars, eroded and similar soils on backslopes on hills and structural benches
4 percent Rock outcrop on escarpments

Interpretive Groups

Land capability classification: Gilpin and Tipsaw—7e; Ebal—6e
Prime farmland: Not prime farmland

Properties and Qualities of the Gilpin Soil

Parent material: Loamy residuum over Mississippian shale and sandstone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Impermeable to moderate
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Available water capacity: About 4.6 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Tipsaw Soil

Parent material: Loamy residuum over Mississippian sandstone and shale bedrock
Drainage class: Somewhat excessively drained
Permeability range to a depth of 40 inches: Impermeable to moderately rapid
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Available water capacity: About 3.3 inches to a depth of 60 inches
Organic matter content of surface layer: 3.0 to 8.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Moderately high

Properties and Qualities of the Ebal Soil

Parent material: Loamy colluvium over clayey residuum over Mississippian shale bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Impermeable or very slow
Depth to restrictive feature: 50 to 80 inches to paralithic bedrock
Available water capacity: About 7.2 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 6.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, March, April, and December
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Very high
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

GgbG—Gilwood-Brownstown silt loams, 25 to 75 percent slopes

Setting

Landform: Hills and knobs underlain with Mississippian siltstone bedrock
Position on landform: Backslopes

Map Unit Composition

45 percent Gilwood and similar soils
35 percent Brownstown and similar soils
10 percent strongly sloping Wrays and similar soils on shoulders and backslopes
3 percent Brownstown, shallow and similar soils on backslopes
3 percent strongly sloping Gilwood and similar soils on shoulders and backslopes
2 percent Beanblossom, occasionally flooded and similar soils on narrow flood plains and alluvial fans
2 percent Rock outcrop on escarpments

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland

Properties and Qualities of the Gilwood Soil

Parent material: Loamy residuum over Mississippian siltstone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Impermeable to moderate
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 5.0 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Seasonal high water table: None

Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Brownstown Soil

Parent material: Loamy-skeletal residuum over Mississippian siltstone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Impermeable to moderately rapid
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 3.9 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

GmaG—Gnawbone-Kurtz silt loams, 20 to 60 percent slopes

Setting

Landform: Hills underlain with Mississippian siltstone and shale bedrock
Position on landform: Backslopes

Map Unit Composition

55 percent Gnawbone and similar soils
35 percent Kurtz and similar soils
5 percent Beanblossom, occasionally flooded and similar soils on alluvial fans and flood plains
5 percent strongly sloping Wellrock and similar soils on shoulders and backslopes

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland

Properties and Qualities of the Gnawbone Soil

Parent material: Loamy residuum over Mississippian siltstone and shale bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Impermeable to moderate
Permeability range below a depth of 40 inches: Impermeable or very slow
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Available water capacity: About 6.0 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Kurtz Soil

Parent material: Loamy residuum over Mississippian siltstone and shale bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Available water capacity: About 7.1 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

HcaA—Hatfield silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

90 percent Hatfield and similar soils
10 percent moderately well drained Sciotoville and similar soils on treads

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained

Properties and Qualities of the Hatfield Soil

Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches

Available water capacity: About 8.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest perched seasonal high water table (depth, months): 0.5 foot; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

HcgAH—Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains and natural levees

Map Unit Composition

85 percent Haymond and similar soils
10 percent moderately well drained Kintner, occasionally flooded, very brief duration and similar soils on flood plains
5 percent moderately well drained Wilbur and similar soils on flood plains

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Haymond Soil

Parent material: Silty over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Frequent; January, February, March, and April
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and low for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

HcgAW—Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains, flood-plain steps, and natural levees

Map Unit Composition

80 percent Haymond and similar soils
14 percent moderately well drained Kintner and similar soils on flood plains and flood-plain steps
4 percent moderately well drained Wilbur and similar soils on flood plains and flood-plain steps
2 percent Haymond, frequently flooded, brief duration and similar soils on flood plains

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Haymond Soil

Parent material: Silty over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Occasional; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and low for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

HcpAP—Haymond silt loam, depression, 0 to 2 percent slopes, frequently ponded, very brief duration

Setting

Landform: Sinkholes on hills underlain with limestone bedrock
Position on landform: Toeslopes of sinkholes

Map Unit Composition

86 percent Haymond and similar soils
14 percent moderately well drained Wilbur and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 3w
Prime farmland: Not prime farmland

Properties and Qualities of the Haymond Soil

Parent material: Silty over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Most likely ponding (frequency, months): Frequent; January, February, March, and April
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and low for concrete
Potential for surface runoff: Negligible
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

HufAH—Huntington silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains and natural levees

Map Unit Composition

90 percent Huntington and similar soils
10 percent moderately well drained Lindside and similar soils on flood plains

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Huntington Soil

Parent material: Silty over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.6 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Frequent; January, February, March, and April
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and low for concrete
Potential for surface runoff: Very low

Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

HufAK—Huntington silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration

Setting

Landform: Flood plains and natural levees

Map Unit Composition

90 percent Huntington and similar soils
10 percent moderately well drained Lindside and similar soils on flood plains

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Huntington Soil

Parent material: Silty over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Occasional; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and low for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

JoaA—Johnsburg silt loam, 0 to 2 percent slopes

Setting

Landform: Hills underlain with Mississippian sandstone and shale bedrock
Position on landform: Summits

Map Unit Composition

92 percent Johnsburg and similar soils
8 percent moderately well drained Apalona and similar soils on summits

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained

Properties and Qualities of the Johnsburg Soil

Parent material: Loess over loamy residuum over Mississippian sandstone and shale bedrock
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 100 inches to paralithic bedrock
Available water capacity: About 8.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest perched seasonal high water table (depth, months): 0.5 foot; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and high for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

KunAW—Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains (fig. 6)

Map Unit Composition

95 percent Kintner and similar soils
5 percent frequently flooded Kintner and similar soils on flood plains

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Kintner Soil

Parent material: Loamy-skeletal alluvium over Mississippian limestone bedrock
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Moderate to rapid
Permeability range below a depth of 40 inches: Slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest apparent seasonal high water table (depth, months): 2.5 feet; January, February, and March
Ponding: None
Most likely flooding (frequency, months): Occasional; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Low for steel and low for concrete

Figure 6.—Wooded landform showing Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration, and indurated limestone bedrock.

Potential for surface runoff: Low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

KxkC2—Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes and shoulders

Map Unit Composition

37 percent Knobcreek and similar soils
35 percent Navilleton and similar soils
10 percent deep, strongly sloping Haggatt and similar soils on backslopes
8 percent moderately permeable Crider and similar soils on shoulders and backslopes
5 percent moderately well drained Bedford and similar soils on shoulders and backslopes
3 percent moderately deep, strongly sloping Caneyville and similar soils on backslopes
2 percent moderately well drained Kintner, occasionally flooded and similar soils on flood plains

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Navilleton Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxIC3—Knobcreek-Haggatt-Caneyville complex, 6 to 12 percent slopes, severely eroded

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes and shoulders

Map Unit Composition

33 percent Knobcreek and similar soils
26 percent Haggatt and similar soils
24 percent Caneyville and similar soils
10 percent very deep, silty textured Navilleton and similar soils on shoulders and backslopes
5 percent very deep, silty textured Crider and similar soils on shoulders and backslopes
2 percent moderately well drained Kintner, occasionally flooded and similar soils on flood plains

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.6 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 5.8 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High

Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderately rapid
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 3.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxIE3—Knobcreek-Haggatt-Caneyville complex, 12 to 25 percent slopes, severely eroded

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes

Map Unit Composition

35 percent Knobcreek and similar soils
22 percent Haggatt and similar soils
21 percent Caneyville and similar soils
10 percent very deep, silty textured Crider and similar soils on shoulders and backslopes
10 percent very deep, silty textured Navilleton and similar soils on moderately sloping shoulders and backslopes
2 percent moderately well drained Kintner, occasionally flooded and similar soils on flood plains

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock

Available water capacity: About 7.6 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 5.8 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderately rapid
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 3.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High

Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxmE2—Knobcreek-Haggatt-Caneyville silt loams, 12 to 25 percent slopes, eroded

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes

Map Unit Composition

33 percent Knobcreek and similar soils
22 percent Haggatt and similar soils
20 percent Caneyville and similar soils
15 percent moderately sloping Crider and similar soils on summits and shoulders
10 percent moderately well drained Kintner, occasionally flooded and similar soils on flood plains

Interpretive Groups

Land capability classification: Knobcreek and Haggatt—4e; Caneyville—6e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High

Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderately rapid
Permeability range below a depth of 40 inches: Slow to moderately rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.7 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxoC2—Knobcreek-Navilleton-Haggatt silt loams, karst, rolling, eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

29 percent Knobcreek and similar soils
28 percent Navilleton and similar soils
27 percent Haggatt and similar soils
9 percent moderately deep Caneyville and similar soils on shoulders and backslopes
5 percent very deep, silty textured Crider and similar soils on summits and shoulders
2 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 3e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock

Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Navilleton Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High

Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxpD2—Knobcreek-Haggatt-Caneyville silt loams, karst, hilly, eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Shoulders and backslopes

Map Unit Composition

35 percent Knobcreek and similar soils
31 percent Haggatt and similar soils
30 percent Caneyville and similar soils
4 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: Knobcreek and Haggatt—4e; Caneyville—6e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None

Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.7 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxrC3—Knobcreek-Navilleton-Haggatt complex, karst, rolling, severely eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

29 percent Knobcreek and similar soils
28 percent Navilleton and similar soils
27 percent Haggatt and similar soils
9 percent moderately deep Caneyville, eroded and similar soils on backslopes
5 percent very deep, silty textured Crider, eroded and similar soils on backslopes, shoulders, and summits
2 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained

Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Navilleton Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.4 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate

Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxsD3—Knobcreek-Haggatt-Caneyville complex, karst, hilly, severely eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes and shoulders

Map Unit Composition

35 percent Knobcreek and similar soils
31 percent Haggatt and similar soils
30 percent Caneyville and similar soils
4 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent

Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.7 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxtC2—Knobcreek-Haggatt-Caneyville silt loams, karst, rolling, eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

23 percent Knobcreek and similar soils
22 percent Haggatt and similar soils
18 percent Caneyville and similar soils
14 percent gently sloping Crider and similar soils on shoulders and summits
10 percent gently sloping Navilleton and similar soils on shoulders, backslopes, and summits
5 percent gently sloping Crider, severely eroded and similar soils on shoulders and summits
5 percent severely eroded Haggatt and similar soils on shoulders, backslopes, and summits
3 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: Knobcreek and Haggatt—3e; Caneyville—4e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.0 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 6.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.7 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High

Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

KxtC3—Knobcreek-Haggatt-Caneyville complex, karst, rolling, severely eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

25 percent Knobcreek and similar soils
22 percent Haggatt and similar soils
20 percent Caneyville and similar soils
18 percent very deep, silty textured Crider and similar soils on shoulders, backslopes, and summits
10 percent Haggatt, eroded and similar soils on backslopes
5 percent frequently ponded Haymond, depression and similar soils on toeslopes

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland

Properties and Qualities of the Knobcreek Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.6 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Loess and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 5.7 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 3.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.1 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

LaaA—Laconia silt loam, 0 to 1 percent slopes

Setting

Landform: Interfluves and depressions on hills

Map Unit Composition

75 percent Laconia and similar soils
15 percent somewhat poorly drained Bromer and similar soils in depressions and on interfluves
10 percent poorly drained Zipp, frequently ponded and similar soils in depressions

Interpretive Groups

Land capability classification: 3w
Prime farmland: Prime farmland if drained

Properties and Qualities of the Laconia Soil

Parent material: Silty slope alluvium over clayey lacustrine deposits
Drainage class: Poorly drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest apparent seasonal high water table (depth, months): At the surface; January, February, and March
Most likely ponding (frequency, months): Frequent; January, February, March, April, May, and December
Flooding: None
Hydric soil: Yes
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Negligible
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

LpoAK—Lindside silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

82 percent Lindside and similar soils
10 percent somewhat poorly drained Newark and similar soils on flood plains
8 percent well drained Huntington and similar soils on flood plains and natural levees

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Lindside Soil

Parent material: Silty over loamy alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest apparent seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None

Most likely flooding (frequency, months): Occasional; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Negligible
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

LpoAQ—Lindside silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

86 percent Lindside and similar soils
12 percent somewhat poorly drained Newark and similar soils on flood-plain steps
2 percent well drained Nolin and similar soils on flood-plain steps

Interpretive Groups

Land capability classification: 1
Prime farmland: All areas are prime farmland

Properties and Qualities of the Lindside Soil

Parent material: Silty over loamy alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest apparent seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Negligible
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

McnGQ—Markland silt loam, 18 to 50 percent slopes, rarely flooded

Setting

Landform: Lake plains
Position on landform: Backslopes on risers

Map Unit Composition

90 percent Markland and similar soils
10 percent strongly sloping Markland silty clay loam, severely eroded and similar soils on backslopes on risers

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland

Properties and Qualities of the Markland Soil

Parent material: Loess over clayey lacustrine deposits
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.5 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 5.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Very high
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

MdlD2—Markland silt loam, 6 to 18 percent slopes, eroded

Setting

Landform: Lake plains
Position on landform: Shoulders and backslopes on risers

Map Unit Composition

80 percent Markland and similar soils
10 percent Markland silty clay loam, severely eroded and similar soils on backslopes and shoulders on risers
10 percent Markland silty clay loam, severely eroded, rarely flooded and similar soils on backslopes on risers

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Markland Soil

Parent material: Loess and clayey lacustrine deposits
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate

Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and low for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

MdwD3—Markland silty clay loam, 6 to 18 percent slopes, severely eroded

Setting

Landform: Lake plains
Position on landform: Shoulders and backslopes on risers

Map Unit Composition

80 percent Markland and similar soils
10 percent Markland silty clay loam, severely eroded, rarely flooded and similar soils on backslopes on risers
10 percent Markland silt loam, eroded and similar soils on backslopes and shoulders on risers

Interpretive Groups

Land capability classification: 7e
Prime farmland: Not prime farmland

Properties and Qualities of the Markland Soil

Parent material: Loess over clayey lacustrine deposits
Drainage class: Well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and low for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

MhuA—McGary silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on landform: Summits

Map Unit Composition

90 percent McGary and similar soils
7 percent moderately well drained Shircliff, eroded and similar soils on summits and shoulders
3 percent poorly drained Zipp, frequently ponded and similar soils in depressions

Interpretive Groups

Land capability classification: 3w
Prime farmland: Prime farmland if drained

Properties and Qualities of the McGary Soil

Parent material: Loess over clayey lacustrine deposits
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 0.5 foot; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and low for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

NbhAK—Newark silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

80 percent Newark and similar soils
15 percent moderately well drained Lindside and similar soils on flood plains
5 percent poorly drained Wilhite and similar soils in backswamps

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained

Properties and Qualities of the Newark Soil

Parent material: Silty over loamy alluvium
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest apparent seasonal high water table (depth, months): 0.5 foot; January, February, and March
Ponding: None
Most likely flooding (frequency, months): Occasional; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and low for concrete
Potential for surface runoff: Negligible
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

NbhAQ—Newark silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

90 percent Newark and similar soils
5 percent moderately well drained Lindside and similar soils on flood-plain steps
5 percent well drained Nolin and similar soils on flood-plain steps

Interpretive Groups

Land capability classification: 2w
Prime farmland: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Newark Soil

Parent material: Silty over loamy alluvium
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest apparent seasonal high water table (depth, months): 0.5 foot; January, February, and March
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, June, and December
Hydric soil: No

Potential frost action: High
Corrosivity: High for steel and low for concrete
Potential for surface runoff: Negligible
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

NprAQ—Nolin silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

80 percent Nolin and similar soils
10 percent Haymond, occasionally flooded, and similar soils on flood plains
10 percent moderately well drained Lindside and similar soils on flood-plain steps

Interpretive Groups

Land capability classification: 1
Prime farmland: All areas are prime farmland

Properties and Qualities of the Nolin Soil

Parent material: Silty over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

Omz—Orthents, earthen dam

Setting

Landform: Flood plains

Map Unit Composition

100 percent Orthents, earthen dam and similar materials

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland

General Description

This map unit generally consists of mixed loamy or clayey soil materials used for fill material used to impound water for ponds and lakes. Because of the extreme variability of these soils, no typical soil series or set of soil properties is representative of these soils. Onsite investigation is needed on these soils to determine specific soil properties for selected land uses.

PcrA—Pekin silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

90 percent Pekin and similar soils
5 percent somewhat poorly drained Bartle and similar soils on treads
5 percent well drained Elkinsville and similar soils on treads

Interpretive Groups

Land capability classification: 2s
Prime farmland: All areas are prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Loess and silty alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

PcrB2—Pekin silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

85 percent Pekin and similar soils
5 percent somewhat poorly drained Bartle and similar soils on treads

5 percent well drained Elkinsville and similar soils on treads
5 percent nearly level Pekin and similar soils on treads

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Loess and silty alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

PhwB2—Percell silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Lake plains
Position on landform: Summits, shoulders, and backslopes

Map Unit Composition

92 percent Percell and similar soils
6 percent clayey textured Shircliff and similar soils on shoulders and summits
2 percent well drained, strongly sloping Markland and similar soils on backslopes on risers

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Percell Soil

Parent material: Loess and the underlying silty and clayey lacustrine deposits
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High

Highest perched seasonal high water table (depth, months): 2.0 feet; January, February, March, April, and December
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Pml—Pits, quarry

Setting

Landform: Hills underlain with Mississippian limestone bedrock

Map Unit Composition

85 percent Pits, quarry and similar areas
10 percent Udorthents and similar soil materials
5 percent Water

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland

General Description

This map unit consists of areas where the surface and subsoil layers have been removed and limestone bedrock has been extracted for construction material. Most of a mapped area is the actual quarry, and some of the area is in piles of broken rock, or mixed rock, and soil materials. This map unit also contains areas occupied by service buildings, offices, processing equipment, and spare parts used for equipment used in the limestone mining process. Because of the extreme variability of these areas, no typical soil series or set of soil properties is representative of these areas. Onsite investigation is needed in these areas to determine specific soil properties for selected land uses.

Ppu—Pits, sand and gravel

Setting

Landform: Gravel pits and sand pits

Map Unit Composition

80 percent Pits, sand and gravel and similar areas
10 percent Udorthents, loamy and similar soil materials
10 percent Water

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland

General Description

This map unit consists of areas where the surface and subsoil layers have been removed and sand or gravel, or both, have been extracted for construction material.

Most of a mapped area is the actual pit, and some of the area is stockpiles of extracted sand and gravel materials. Water may fill parts of the area when idle. Because of the extreme variability of these areas, no typical soil series or set of soil properties is representative of these areas. Onsite investigation is needed in these areas to determine specific soil properties for selected land uses.

RmcE—Riney loam, 12 to 35 percent slopes

Setting

Landform: Hills underlain with Mississippian sandstone bedrock of the Bethel Formation
Position on landform: Backslopes

Map Unit Composition

86 percent Riney and similar soils
14 percent moderately sloping Sonora and similar soils on backslopes and shoulders

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Riney Soil

Parent material: Loamy material and unconsolidated material derived from Mississippian sandstone of the Bethel Formation
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Organic matter content of surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

ScbA—Sciotoville silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

88 percent Sciotoville and similar soils
5 percent well drained, nearly level Elkinsville and similar soils on treads
4 percent somewhat poorly drained Hatfield and similar soils on treads
3 percent well drained, gently sloping Elkinsville and similar soils on risers

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Sciotoville Soil

Parent material: Loamy alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

ScbB2—Sciotoville silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on landform: Treads

Map Unit Composition

75 percent Sciotoville and similar soils
10 percent well drained, moderately sloping Elkinsville and similar soils on risers
10 percent well drained Elkinsville and similar soils on treads
5 percent well drained Millstone loam and similar soils on treads

Interpretive Groups

Land capability classification: 2e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Sciotoville Soil

Parent material: Loamy alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Very slow to moderate
Permeability range below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March

Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and high for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

SfyB—Shircliff silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on landform: Summits and shoulders

Map Unit Composition

90 percent Shircliff and similar soils
6 percent somewhat poorly drained McGary and similar soils on summits
4 percent well drained, strongly sloping Markland, eroded and similar soils on backslopes on risers

Interpretive Groups

Land capability classification: 3e
Prime farmland: All areas are prime farmland

Properties and Qualities of the Shircliff Soil

Parent material: Loess over clayey lacustrine deposits
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Slow to moderate
Permeability range below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Highest perched seasonal high water table (depth, months): 1.5 feet; January, February, and March
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Uaa—Udorthents, cut and filled

Setting

Landform: Variable and including hills underlain with Mississippian limestone and hills underlain with Mississippian siltstone, sandstone, and shale; stream terraces; lake plains; and flood plains

Map Unit Composition

90 percent Udorthents, cut and filled and similar soil materials
5 percent Urban land
5 percent Water

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland

General Description

This map unit generally consists of mixed loamy or clayey soil materials in areas that have been borrowed for fill materials or the fill material itself. Because of the extreme variability of these soils, no typical soil series or set of soil properties is representative of these soils. Onsite investigation is needed on these soils to determine specific soil properties for selected land uses.

UekAQ—Urban land-Elkinsville-Haymond complex, 0 to 6 percent slopes, rarely flooded

Setting

Landform: Stream terraces and flood plains
Position on landform: Treads

Map Unit Composition

60 percent Urban land
20 percent Elkinsville and similar soils
15 percent Haymond and similar soils
5 percent moderately well drained Kintner, occasionally flooded and similar soils on flood plains

Interpretive Groups

Land capability classification: Urban land—8; Elkinsville—2e; Haymond—2w
Prime farmland: Not prime farmland

General Description of Urban land

Urban land includes areas that are covered by paved or graveled roads, parking lots and walkways, residential and commercial buildings, and cemetery structures. Because of the extreme variability of these areas, no typical soil series or set of soil properties is representative of these areas. Onsite investigation is needed in these areas to determine specific soil properties for selected land uses.

Properties and Qualities of the Elkinsville Soil

Parent material: Loess over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Seasonal high water table: None
Ponding: None

Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Properties and Qualities of the Haymond Soil

Parent material: Silty over loamy alluvium
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Seasonal high water table: None
Ponding: None
Most likely flooding (frequency, months): Rare; January, February, March, April, May, and June
Hydric soil: No
Potential frost action: High
Corrosivity: Low for steel and low for concrete
Potential for surface runoff: Very low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

UflC—Urban land-Crider-Vertrees complex, karst, rolling

Setting

Landform: Sinkholes on hills underlain by Mississippian limestone bedrock
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

60 percent Urban land
20 percent Crider and similar soils
15 percent Vertrees and similar soils
5 percent frequently ponded Haymond, depression and similar soils on toeslopes

Interpretive Groups

Land capability classification: Urban land—8; Crider and Vertrees—3e
Prime farmland: Not prime farmland

General Description of Urban land

Urban land includes areas that are covered by paved or graveled roads, parking lots and walkways, residential and commercial buildings, and cemetery structures. Because of the extreme variability of these areas, no typical soil series or set of soil properties is representative of these areas. Onsite investigation is needed in these areas to determine specific soil properties for selected land uses.

Properties and Qualities of the Crider Soil

Parent material: Loess, loamy materials, and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Vertrees Soil

Parent material: Thin loess and clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.6 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

UnsB—Urban land-Udarents, clayey substratum complex, hills, 2 to 12 percent slopes

Setting

Landform: Hills underlain with Mississippian limestone bedrock
Position on landform: Summits, shoulders, and backslopes

Map Unit Composition

50 percent Urban land
30 percent Udarents, clayey substratum and similar soils
10 percent very deep, silty textured Crider and similar soils
5 percent strongly sloping Haggatt and similar soils on backslopes

5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: Urban land—8; Udarents—4e
Prime farmland: Not prime farmland

General Description of Urban land

Urban land includes areas that are covered by paved or graveled roads, parking lots and walkways, residential and commercial buildings, and cemetery structures. Because of the extreme variability of these areas, no typical soil series or set of soil properties is representative of these areas. Onsite investigation is needed in these areas to determine specific soil properties for selected land uses.

General Description of Udarents

Udarents generally consist of clayey residual materials in disturbed areas and include a mantle of silty or loamy materials in some places. These soils are well drained and are more than 6 feet deep to a seasonal high water table. Depth to a restrictive feature of Mississippian-age hard bedrock is 40 to 120 inches. These soils are not subject to ponding or flooding. Because of the extreme variability of these soils, no typical soil series or set of soil properties is representative of these soils. An onsite investigation is needed on these soils to determine specific soil properties for selected land uses.

UsI—Udorthents, rubbish

Setting

Landform: Hills underlain with Mississippian limestone bedrock

Map Unit Composition

100 percent Udorthents, rubbish and similar materials

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland

General Description

This map unit generally consists of mixed loamy or clayey soil materials in areas that have been excavated for use as sanitary landfills and refilled with mixed soil material, trash, garbage, and other refuse. Because of the extreme variability of these soils, no typical soil series or set of soil properties is representative of these soils. An onsite investigation is needed on these soils to determine specific soil properties for selected land uses.

VcaC3—Vertrees-Crider-Caneyville complex, karst, rolling, severely eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

40 percent Vertrees and similar soils
30 percent Crider and similar soils
20 percent Caneyville and similar soils
5 percent moderately sloping Haggatt, eroded and similar soils on backslopes and shoulders
5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 4e
Prime farmland: Not prime farmland

Properties and Qualities of the Vertrees Soil

Parent material: Thin loess and clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: Moderate
Wind erosion susceptibility: Slight

Properties and Qualities of the Crider Soil

Parent material: Loess, loamy materials, and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 8.9 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.3 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

VcbD2—Vertrees-Crider-Caneyville silt loams, karst, hilly, eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Backslopes, shoulders, and summits

Map Unit Composition

35 percent Vertrees and similar soils
25 percent Crider and similar soils
15 percent Caneyville and similar soils
10 percent Haggatt, severely eroded and similar soils on backslopes and shoulders
10 percent Vertrees, severely eroded and similar soils on backslopes and shoulders
5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: Vertrees and Crider—4e; Caneyville—6e
Prime farmland: Not prime farmland

Properties and Qualities of the Vertrees Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.6 inches to a depth of 60 inches

Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Crider Soil

Parent material: Loess, loamy materials, and clayey residuum over the underlying Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 9.8 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Figure 7.—An area of Vertrees-Haggatt-Caneyville complex, karst, hilly, severely eroded. Runoff from sheet and rill erosion and the sedimentation that occurs could be reduced by using no-till cropping methods. Installing a grassed waterway can help to reduce gully erosion.

VccD3—Vertrees-Haggatt-Caneyville complex, karst, hilly, severely eroded

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock (fig. 7)
Position on landform: Backslopes and shoulders

Map Unit Composition

35 percent Vertrees and similar soils
25 percent Haggatt and similar soils
20 percent Caneyville and similar soils
15 percent Haggatt, eroded and similar soils on backslopes and shoulders
5 percent frequently ponded Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 6e
Prime farmland: Not prime farmland

Properties and Qualities of the Vertrees Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained

Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow
Depth to restrictive feature: 60 to 120 inches to lithic bedrock
Available water capacity: About 7.0 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Haggatt Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 5.7 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Medium
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

Properties and Qualities of the Caneyville Soil

Parent material: Thin loess and the underlying clayey residuum over Mississippian limestone bedrock
Drainage class: Well drained
Permeability range to a depth of 40 inches: Moderately slow to rapid
Permeability range below a depth of 40 inches: Moderately slow to rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.3 inches to a depth of 60 inches
Organic matter content of surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Seasonal high water table: None
Ponding: None
Flooding: None
Hydric soil: No
Accelerated erosion: Surface layer is mostly subsoil material
Potential frost action: Moderate

Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: High
Water erosion susceptibility: High
Wind erosion susceptibility: Slight

W—Water

Setting

Landform: Ponds, rivers, and streams

Map Unit Composition

100 percent Water

Interpretive Groups

Land capability classification: None assigned
Prime farmland: Not prime farmland

WbkAP—Wilbur-Newark silt loams, depression, 0 to 2 percent slopes, frequently ponded, very brief duration

Setting

Landform: Sinkholes on hills underlain with Mississippian limestone bedrock
Position on landform: Toeslopes

Map Unit Composition

50 percent Wilbur and similar soils
40 percent Newark and similar soils
10 percent well drained Haymond, depression and similar soils on toeslopes of sinkholes

Interpretive Groups

Land capability classification: 2w
Prime farmland: Not prime farmland

Properties and Qualities of the Wilbur Soil

Parent material: Silty over loamy alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.6 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Highest apparent seasonal high water table (depth, months): 1.5 feet; January, February, and March
Most likely ponding (frequency, months): Frequent; January, February, March, and April
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: Moderate for steel and low for concrete
Potential for surface runoff: Negligible

Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

Properties and Qualities of the Newark Soil

Parent material: Silty over loamy alluvium
Drainage class: Somewhat poorly drained
Permeability range to a depth of 40 inches: Moderate
Permeability range below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest apparent seasonal high water table (depth, months): 0.5 foot; January, February, and March
Most likely ponding (frequency, months): Frequent; January, February, March, and April
Flooding: None
Hydric soil: No
Potential frost action: High
Corrosivity: High for steel and low for concrete
Potential for surface runoff: Negligible
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

WycAQ—Woodmere silt loam, 0 to 3 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

90 percent Woodmere and similar soils
10 percent somewhat poorly drained Newark and similar soils on flood-plain steps

Interpretive Groups

Land capability classification: 2w
Prime farmland: All areas are prime farmland

Properties and Qualities of the Woodmere Soil

Parent material: Alluvium
Drainage class: Moderately well drained
Permeability range to a depth of 40 inches: Moderately slow or moderate
Permeability range below a depth of 40 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Organic matter content of surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Highest apparent seasonal high water table (depth, months): 2.5 feet; January, February, and March
Most likely flooding (frequency, months): Rare; January, February, March, April, May, June, and December
Ponding: None
Hydric soil: No

Potential frost action: High
Corrosivity: High for steel and moderate for concrete
Potential for surface runoff: Low
Water erosion susceptibility: Slight
Wind erosion susceptibility: Slight

Use and Management of the Soils

Soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel and sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited.* The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings, which are in some of the tables, indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to

1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

Brian Ingmire, Area Agronomist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the headings “Soil Series and Their Morphology” and “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2004, according to the Indiana Agricultural Statistics, about 155,500 acres in Harrison County, or about 50 percent of the total acreage, was used for crops. The crops grown were mainly corn, soybeans, winter wheat, and hay and pasture, which included hayland in rotation with other crops. About 300 acres was used for tobacco and 2,114 acres was planted to popcorn.

The potential of the soils in Harrison County for increased production of food crops is low. A small percentage of the acreage that is currently used as woodland or pasture could be converted to cropland. In addition to the reserve productive capacity represented by this land, food production can also be increased considerably by extending the latest crop production technology to all of the cropland in the county. This soil survey can greatly facilitate the application of such technology.

The paragraphs that follow describe the main management concerns affecting the use of the soils in the county for crops and pasture. These concerns are water erosion, wetness, surface cloddiness, and fertility.

Water erosion is a hazard in areas where the slope is more than about 2 percent. Loss of the surface layer through erosion reduces productivity as fertilizer, pesticides, herbicides, and organic matter are removed from the surface layer. The quality of some soils, such as Crider, Vertrees, Knobcreek, Haggatt, and Apalona soils, is reduced as part of the more clayey subsoil is incorporated into the surface layer. Therefore, seedbed preparation becomes more difficult and seed germination is hindered. Loss of the surface layer is especially damaging to soils that have a fragipan or fragic soil properties in the subsoil or have bedrock within 60 inches of the surface. The root zone in these soils consists mainly of the part of the profile above the fragipan or bedrock. As the surface layer is lost, the thickness of the root zone and the available water capacity are reduced. Bedford, Apalona, Gatton, Pekin, and Sciotoville soils have a fragipan or fragic soil properties. Caneyville, Kintner, Gilwood, and Haggatt soils have bedrock within 60 inches of the surface.

Erosion also results in the sedimentation and pollution of ditches, lakes, and streams. Controlling erosion minimizes sedimentation and pollution and improves water quality for fish and wildlife, for municipal use, and for recreational uses.

Planting cover crops helps to control erosion on the more sloping soils. Cover crops are especially important after harvesting soybeans, corn for silage, and tobacco. Tillage methods that leave about 50 percent or more crop residue on the surface can

Figure 8.—No-till corn in an area of Crider silt loam, 2 to 6 percent slopes. Crop residue management helps to slow runoff, reducing erosion.

protect most of the sloping soils from unacceptable levels of erosion during winter and early spring.

A conservation tillage system helps to hold soil losses to an acceptable level on most of the sloping soils. If row crops are grown year after year on sloping soils, soil losses generally are high, unless a conservation tillage system is applied.

No-till and strip-till cropping systems are effective in minimizing soil loss on the sloping soils used for corn or soybeans (fig. 8). These conservation tillage systems can be adapted to many of the soils in the county that are susceptible to erosion. When no-till and strip-till are used in areas that have a thick vegetative cover or protective amounts of crop residue, soil moisture evaporates at a slower rate and the weed population is greatly reduced. Apalona, Alford, Alvin, Bloomfield, Deuchars, Bedford, Caneyville, Crider, Elkinsville, Knobcreek, Markland, Percell, Sciotoville, and Vertrees soils are examples of sloping soils that are suitable for no-till and strip-till.

Contour farming can be used in several areas of the county. In areas where slopes are short and irregular, this practice is difficult to manage. Other types of conservation measures may be more suitable.

Water- and sediment-control basins are effective in reducing the rate of runoff in drainageways. They are most effective where subsurface tile can be installed as an outlet and on soils that have slopes of about 8 percent or less. Apalona, Bedford, Crider, Gatton, Navilleton, Pekin, and Shircliff soils are examples of these soils.

Grassed waterways are needed to protect the channels that drain a watershed. Subsurface drains are needed in areas where wetness or seepage is a problem in the waterways.

Grade-stabilization structures are needed in many areas of the county where the outlets of drainageways have unstable overfalls that can be subject to severe gully

erosion. These structures stabilize the overfall in the drainageways and minimize gully erosion.

Information about the type and design of erosion-control practices that are best suited to each kind of soil is available at the local office of the Natural Resources Conservation Service.

Wetness is a management concern for the cropland and pasture in the county. On most of the naturally wet, poorly drained Laconia soils, production of the crops commonly grown in the county is generally not practical unless a drainage system is installed. In undrained areas of the somewhat poorly drained Bartle, Bromer, Hatfield, Johnsburg, McGary, and Newark soils, wetness significantly damages crops in most years.

Various land use regulations of Federal, State, and local governments may impose special restrictions on the use of soils. An example is the protection of wetlands. Statements made in this section about wetness are intended to help the land user identify and reduce the effects of management concerns related to wetness. The landowner or user has the responsibility of identifying and complying with existing laws and regulations.

The design of both surface and subsurface drainage systems varies with the kind of soil. A combination of surface and subsurface drains is needed on some soils that are intensively row cropped. Subsurface drains should be more closely spaced in slowly permeable or very slowly permeable soils than in more permeable soils. Filtering material is generally needed in subsurface drains in soils that have minimum grades and a high silt content, such as Newark soils. Finding adequate outlets for subsurface drainage systems is difficult in some areas of Laconia soils.

More information about the design of drainage systems for each kind of soil is in the “Field Office Technical Guide,” which is available in local offices of the Natural Resources Conservation Service or online at http://www.nrcs.usda.gov/technical/efotg.

Soil structure is an important factor affecting the germination of seeds and the infiltration of water into the soil. Soils that have good soil structure are granular and porous. Many of the soils used for row crops in the county have a surface layer of silt loam that has a moderate or low organic matter content. Where little or no crop residue is present, a hard surface crust forms after periods of intensive rainfall. This crust reduces the infiltration rate, increases the runoff rate, and inhibits plant emergence. Regular additions of crop residue, cover crops, manure, and other organic material improve soil structure and help to minimize crusting.

If tilled when too wet, soils that have a moderately fine textured surface layer can become very cloddy when dry and cannot be easily worked. As a result, preparing a good seedbed is very difficult. Fall tillage of these soils generally minimizes cloddiness in the spring but, as stated earlier, can cause long-term soil-quality issues related to soil erosion and have negative impacts on water quality.

Many of the soils in the county have a silty surface layer that is easily compacted. Tilling or grazing when the soils are wet can cause surface compaction, which restricts penetration by tillage equipment and plant roots and limits plant growth.

Soil fertility is mainly affected by reaction, by the content of plant nutrients, and by the organic matter content. Most of the soils in the county on unglaciated hills and lake plains have low natural fertility. They typically are strongly acid or very strongly acid in areas that have not been limed. Most of the soils on flood plains along the Ohio River, Indian Creek, Little Indian Creek, Mosquito Creek, Buck Creek, and the Blue River range from neutral to moderately acid. A few are naturally strongly acid or very strongly acid in areas that have not been limed.

On soils that have a pH level below about 6.4, applications of ground limestone are needed to raise the pH level sufficiently for the best utilization of plant nutrients by cultivated crops, such as corn and soybeans, and thus for optimum yields. On soils that have a pH below about 6.4, ground limestone is needed for hay and pasture

Figure 9.—Cattle utilizing a water body in a pasture field in an area of Crider-Vertrees silt loams, karst, rolling, eroded. The water body is a sinkhole that has sealed up, allowing water to pond.

plants, such as alfalfa and red clover. The supply of available phosphorus and potassium is generally below the level needed for good plant growth in most of the soils in the county that have never had applications of fertilizer. On all soils, additions of lime and fertilizer should be based on the results of soil tests, the needs of the crop, and the desired level of yields. The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to be applied.

Pasture plants commonly grown in the county are mixtures of tall fescue, orchardgrass, timothy, alfalfa, and red clover. Other pasture plants are bluegrass, ladino clover, redtop, alsike clover, and lespedeza. Most of the soils in the county are well suited to grasses, such as tall fescue, timothy, and orchardgrass, and to legumes, such as red clover, ladino clover, alfalfa, and lespedeza (fig. 9). Legumes grow poorly in soils that are poorly drained or very poorly drained, such as Laconia soils. The growth of most deep-rooted legumes, such as alfalfa, is significantly restricted in soils that have a fragipan or fragic soil properties, such as Apalona, Bartle, Bedford, Gatton, Hatfield, Pekin, Sciotoville, and Zanesville soils.

Poorly drained and very poorly drained soils, such as Laconia soils, are well suited to water-tolerant grasses. Well drained soils, such as Alford, Crider, Elkinsville, Haggatt, Haymond, Markland, Millstone, Navilleton, and Vertrees soils, are well suited to deep-rooted legumes. The latest information on recommended grasses and legumes for each soil type can be obtained from local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Field crops suited to the soils and climate in the county include those that are currently grown and some that are not commonly grown. Corn, soybeans, and wheat are the principal cultivated crops. Other cultivated crops grown are oats, rye, and popcorn. Alfalfa, red clover, timothy, bromegrass, and orchardgrass are common crops grown for hay and pasture. A very small acreage is used for tobacco.

The latest information about growing cultivated crops, hay and pasture crops, and

specialty crops can be obtained from local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Limitations and Hazards Affecting Cropland

The management concerns affecting the use of the detailed soil map units in the survey area for crops are shown in table 5. The main concerns include controlling erosion, reducing soil wetness and ponding, reducing surface crusting and cloddiness, operating equipment safely on steep slopes, and limiting the effects of a low or high pH and a low or moderate available water capacity.

Some of the limitations and hazards shown in the table cannot be easily overcome. These include flooding, limited rooting depth, restricted permeability, low available water capacity, and subsidence.

Generally, a combination of several practices is needed to control both *water erosion* and *wind erosion.* Conservation tillage, stripcropping, contour farming, conservation cropping systems, crop residue management, diversions, grassed waterways, and field windbreaks help to minimize excessive soil loss. Soils that have deep or wide gullies are generally not suitable for cropland.

Wetness is a limitation in some cropland areas, and *ponding* is a hazard. Drainage systems consist of subsurface tile drains, surface inlet tile, open drainage ditches, surface drains, or a combination of these. Measures that maintain the drainage system are needed. Generally, soils that are ponded for long or very long periods during the growing season are not suitable for cropland.

Practices that reduce *surface crusting* and *cloddiness* include incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage. Surface cloddiness can be minimized by avoiding tillage when the soil is too wet.

Conserving moisture is needed where the soils have a *low or moderate available water capacity.* It primarily involves reducing the evaporation and runoff rates and increasing the water infiltration rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

A *low pH* or a *high pH* (soil reaction) inhibits the uptake of certain nutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. In areas of soils that have a low pH, applications of lime should be based on the results of soil tests. The goal is to achieve the optimum pH level for the uptake of the major nutrients by the specific crop. Generally, the natural reaction in the surface layer of most of the soils in the survey area is a low pH, except for some soils on flood plains. For most soils in the survey area the pH needs to be raised to an optimal level for the crop being grown. Soils with a high pH may need treatment to lower the pH so that certain elements are adequately available for crop growth.

Equipment limitations occur in areas where slopes are 15 percent or more. In these areas, the operation of farm equipment may be restricted and become hazardous. Generally, soils with an average slope of 18 percent or more are not suitable for cropland. The use of equipment is limited in areas of some soils because of the slope. Rock fragments on the surface can limit the type of equipment that can be used or can damage equipment during planting operations. Equipment use is also restricted in areas in which 3 percent or more of the surface is covered with stones or boulders or in areas where the soils have a gravelly or cobbly surface layer.

Limited rooting depth and a limited amount of moisture available for plant growth are caused by root-restrictive layers within a depth of 40 inches. Root-restrictive features include bedrock, a fragipan, dense till, or stratified sand and gravel.

Crops can be damaged if the soil is subject to occasional or frequent periods of

flooding during the growing season. Winter-grown small grain crops are especially susceptible to damage. Water-tolerant species should be used in areas subject to flooding during the growing season.

Subsidence is the loss or settlement of the organic soil layers through oxidation of the organic soil material. Saturating the organic layers by raising the water table during the non-cropping season helps to reduce the oxidation of organic soil layers.

Following are explanations of the criteria used to determine the limitations or hazards listed in the table.

Cloddiness.—The soil has 35 percent or more clay in the surface layer.

Crusting.—The organic matter content in the surface layer is less than or equal to 2 percent, the percent passing the number 200 sieve is greater than 50 percent, and the clay content is less than or equal to 32 percent.

Equipment limitation.—The soil has an average slope range that is 15 percent or more; or the soil has stones or boulders that cover 3 percent or more of the surface; or the surface layer contains 15 percent or more rock fragments.

Flooding.—The soil is subject to occasional or frequent periods of flooding during the growing season.

High pH.—The soil naturally has a high pH or high reaction; the soil has a typical pH value equal to or more than 7.4 in the surface layer.

Limited rooting depth.—Root-restrictive layers, which include bedrock, a fragipan, dense till, and stratified sand and gravel, are within a depth of 40 inches.

Low available water capacity.—The weighted average of the available water capacity is less than 0.10 inch of water per inch of soil within a depth of 60 inches.

Low pH.—The soil naturally has a low pH or low reaction; the soil has a typical pH value of 6.0 or less in the surface layer.

Moderate available water capacity.—The weighted average of the available water capacity is less than 0.15 inch of water per inch of soil within a depth of 60 inches.

Ponding.—The soil is subject to occasional or frequent periods of ponding during the growing season.

Restricted permeability.—Permeability is less than 0.2 inch per hour in one or more layers within a depth of 40 inches.

Subsidence.—The soil has an organic layer within a depth of 60 inches.

Water erosion.—The soil erosion factor Kf or Kw multiplied by the slope is greater than 0.8, and the average slope is 3 percent or more.

Wetness.—The soil has a water table within a depth of 1.5 feet during the growing season.

Wind erosion.—The wind erodibility group (WEG) assigned to the soil is 1 or 2 (3 for soils that are not on flood plains).

Erosion factors (e.g., Kw factor) and wind erodibility groups are described under the heading “Erosion Properties of the Soils.”

Limitations and Hazards Affecting Pastureland

Growing legumes, cool-season grasses, and warm-season grasses that are suited to the soils and the climate of the survey area helps to maintain a productive stand of pasture.

Management concerns affecting the use of the detailed soil map units in the survey area for pasture are shown in table 5. The main management concerns are erosion, equipment limitations, wetness and ponding, trafficability, a low or a high pH, and a low or very low available water capacity.

Some of the limitations and hazards shown in the table cannot be easily overcome. These are depth to bedrock, a low or very low available water capacity, subsidence, and flooding.

Also, the majority of the soils suitable for growing legumes have a high potential for

frost action. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about legumes subject to damage from frost heave. This hazard is not listed in table 5 because it applies to the majority of the soils.

Both *water erosion* and *wind erosion* reduce the productivity of pastureland. Controlling erosion during seedbed preparation is a major concern. If the soil is tilled for the reseeding of pasture or hay crops, planting winter cover crops, establishing grassed waterways, planting field windbreaks, farming on the contour, and using a system of conservation tillage that leaves a protective cover of crop residue on the surface can help to minimize erosion. Soils that have deep or wide gullies are generally not suitable for pasture.

Wetness is a limitation in some pasture areas, and *ponding* is a hazard. Overgrazing or grazing when the soil is wet reduces the extent of plant cover and results in surface compaction, thus increasing the susceptibility to erosion. Proper stocking rates, rotational grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition. Drainage systems consist of subsurface tile drains, surface inlet tile, open drainage ditches, surface drains, or a combination of these. Measures that maintain the drainage system are needed. Generally, soils that are ponded for long or very long periods during the growing season are not suitable for pasture.

Subsidence is the loss or settlement of the organic soil layers through oxidation of the organic soil material. Saturating the organic layers by raising the water table during the non-cropping season helps to reduce the oxidation of organic soil layers.

Trafficability refers to the ability of the soil to support both livestock and machinery. It is a concern in areas of soils that are subject to wetness and have a loamy, clayey, or organic surface layer. The proper location of livestock facilities (water, feed, and shelter) helps to minimize surface compaction or the formation of ruts and helps to prevent the damage of pasture crops.

Equipment limitations occur in areas where slopes are 15 percent or more. The operation of farm equipment may be restricted and can become hazardous. The use of equipment is restricted because of the slope. Generally, soils with an average slope of 25 percent or more are not suitable for use as pastureland. The use of equipment is also a concern in areas that have rock fragments on or in the surface layer. The type of equipment that can be used is restricted in these areas, and the equipment can be damaged during reseeding and planting operations.

Limited rooting depth and a limited amount of moisture available for plant growth are caused by root-restrictive features within a depth of 40 inches. Root-restrictive features include bedrock, a fragipan, dense till, or stratified sand and gravel. *Available water capacity* refers to the capacity of soils to hold water available for use by most plants. The quality and quantity of the pasture may be reduced for soils that have a low or very low available water capacity. The soil moisture may be inadequate for the maintenance of a healthy community of desired pasture species and thus the desired number of livestock. A poor-quality pasture may increase the hazard of erosion and increase the runoff of pollutants. Planting drought-resistant species of grasses and legumes helps to establish a vegetative cover. Irrigation may be needed.

A *low pH* or a *high pH* (soil reaction) inhibits the uptake of certain nutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. For a low pH, applications of lime should be based on the results of soil tests. The goal is to achieve the optimum pH level for the uptake of the major nutrients by the specific grass, legume, or combination of grasses and legumes.

Following are explanations of the criteria used to determine the limitations or hazards in the table.

Equipment limitation.—The soil has an average slope range that is 15 percent or

more; or the soil has stones or boulders that cover 3 percent or more of the surface; or the surface layer contains 15 percent or more rock fragments.

Flooding.—The soil is subject to occasional or frequent periods of flooding during the growing season.

High pH.—The soil naturally has a high pH or high reaction; the soil has a typical pH value equal to or more than 7.4 in the surface layer.

Limited rooting depth.—Root-restrictive layers, which include bedrock, a fragipan, dense till, and stratified sand and gravel, are within a depth of 40 inches.

Low or very low available water capacity.—The weighted average of the available water capacity is less than 0.10 inch of water per inch of soil within a depth of 60 inches.

Low pH.—The soil naturally has a low pH or low reaction; the soil has a typical pH value that is equal to or less than 6.0 in the surface layer.

Ponding.—The soil is subject to occasional or frequent periods of ponding during the growing season.

Subsidence.—The soil has an organic layer within a depth of 60 inches.

Trafficability.—The soil is somewhat poorly drained, poorly drained, or very poorly drained; the soil has a loamy, clayey, or organic surface layer.

Water erosion.—The soil erosion factor Kf or Kw multiplied by the slope is greater than 0.8, and the average slope is 3 percent or more.

Wetness.—The soil is poorly drained or very poorly drained.

Wind erosion.—The wind erodibility group (WEG) assigned to the soil is 1 or 2 (3 for soils that are not on flood plains).

Erosion factors (e.g., Kf factor) and wind erodibility groups are described under the heading “Erosion Properties of the Soils.”

Yields per Acre

The average yields per acre that can be expected for the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table. These differences are the result of variations in rainfall and other climatic factors; varieties grown; environmental factors, such as plant diseases and insect infestations; and type of fertility program. The land capability classification of each map unit also is shown in the table.

Cropland Interpretations

The estimated yields in the table were calculated based on a specific value for corn yields, and the yields for the other crops listed are calculated as a percentage relative to the corn yield.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage; erosion control; protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed and implemented. The relative productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or the local Cooperative

Extension Service can provide additional information about the management and productivity of the soils for those crops.

Pasture and Hayland Interpretations

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotational grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM). An animal unit month is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated grass-legume hay and pasture yields in table 6 were calculated as a percentage relative to a specific value for corn yields. Yields for hay and pasture crops vary widely based on the type and combination of grass and legume crops grown.

The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about forage yields other than those shown in table 6.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for pastureland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA/SCS, 1961). Only class and subclass are used in this survey

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses, are soil groups within one class. They are designated by

adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

About 77,423 acres, or nearly 25 percent of the survey area, meets the criteria for prime farmland. Areas of this land are throughout the county.

The map units in the survey area that are considered prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2003) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map unit meets the definition of hydric soils and, in addition, has at least one of the hydric soil indicators. This information can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

LaaA Laconia silt loam, 0 to 1 percent slopes

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators; however, areas of hydric soils may be included in some delineations. The components with hydric characteristics and their average percentage of the map unit are included in parentheses. Onsite investigation is recommended to determine whether hydric soils

occur and the location of the included hydric soils. In some cases a minor soil component may be referred to that was not correlated in Harrison County but that has been mapped within one of the three Major Land Resource Areas (MLRAs) of which Harrison County is a part.

BbhA	Bartle silt loam, 0 to 2 percent slopes (Peoga silt loam, 0 to 1 percent slopes, frequently ponded, 10 percent)
BuoA	Bromer silt loam, 0 to 2 percent slopes (Laconia silt loam, 0 to 1 percent slopes, 5 percent)
MhuA	McGary silt loam, 0 to 2 percent slopes (Zipp silty clay loam, 0 to 1 percent slopes, frequently ponded, 3 percent)
NbhAK	Newark silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration (Wilhite silty clay loam, 0 to 1 percent slopes, occasionally flooded, brief duration, 5 percent)

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 8 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens.

Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

Forestland

Hardwood forest once covered most of the land in Harrison County, but trees have been removed from most of the land suitable for cultivation. Much of the remaining forest cover is in steep or very steep areas of the uplands (fig. 10).

Upland oaks are dominant on the well drained sites. Crider and Knobcreek soils, for example, are well suited to upland oaks and associated species. White oak, red oak, black oak, chinquapin oak, hickory, sugar maple, and tulip poplar are the dominant species. Tulip poplar generally grows on the lower parts of steep slopes, on cool aspects (north and northeast slopes), and in coves. Kintner and Crider soils, for example, are well suited to tulip poplar and associated species. Associated species include red oak, basswood, white oak, hickory, beech, black walnut, and sugar maple. Tulip poplar is the preferred species for planting.

Pin oak grows well on poorly drained soils on uplands, terraces, and flood lands. Laconia soils, for example, are well suited to pin oak and associated species. Associated species include soft maple, sweetgum, swamp white oak, and elm.

Sweetgum is a major forest type on poorly drained soils on uplands and on poorly drained and somewhat poorly drained soils on terraces and flood plains. Bartle, Hatfield, Laconia, McGary, and Newark soils, for example, are well suited to sweetgum

Figure 10.—Forestland in an area of Crider-Vertrees silt loams, karst, rolling, eroded.

and associated species. Associated species include soft maple, red river birch, hickory, and sycamore. Sweetgum is a minor component of several timber types.

Site characteristics that affect tree growth include aspect, or the direction the slope is facing, and position on the slope. These site characteristics influence the amount of available sunlight, air drainage, soil temperature, soil moisture, and relative humidity. North- and east-facing slopes and low positions on the slope are generally the best upland sites for tree growth because they are cooler and have better moisture conditions than south- and west-facing slopes.

Soil properties are fundamentally important for woodland production. Twenty-five percent or more of the mass of a tree is in the soil, which serves as a reservoir for moisture, provides an anchor for roots, and supplies essential plant nutrients. Soil properties that affect the growth of trees include reaction, fertility, wetness, texture, structure, slope, and depth. Trees grow best on soils whose properties are not in the extreme range and that have an effective rooting depth of more than 40 inches.

Soil wetness is the result of a high water table that is at or above the surface and of an unfavorable frequency and duration of flooding or ponding. Soil wetness, flooding, and ponding are properties that greatly influence the species of trees that will grow on a specific site. For example, poorly drained soils or soils that are subject to frequent long periods of flooding are best suited to species that tolerate wetness, such as pin oak and sweetgum. Well drained soils and soils not subject to frequent periods of flooding are best suited to species that cannot tolerate wetness, such as black walnut and white oak.

Wetness causes seedling mortality, limits the use of equipment, and increases the windthrow hazard by restricting the rooting depth of some trees. Ruts form easily if wheeled skidders are used when the soils are wet. Deep ruts restrict lateral drainage and damage tree roots and soil structure. Flooding is a particular hazard if it occurs

frequently or if it lasts more than 7 days. Equipment should be used only during dry periods.

The slope can limit the use of forestry equipment. A slope of 15 percent or more limits the use of some types of equipment in logging or yarding areas and on skid trails and unsurfaced logging roads. The limitation is even more severe in areas that have slopes of more than 25 percent. Erosion is a hazard in areas where the soils are disturbed and the natural ground cover has been removed or diminished. Applying such management practices as water bars or dips can help to control erosion. Also, the design of logging roads and skid trails can help to overcome the steepness and length of slopes and can help to prevent the concentration of water. Operating equipment on the contour where possible helps to control erosion, but in some areas the slope may be a safety concern. On steeper slopes, logs should be moved uphill to skid trails and yarding areas.

Forestland productivity can be influenced by management activities. These practices include thinning young stands, harvesting mature trees, reducing the potential for fire, and eliminating the use of woodland for grazing. Some of the forestland in the county is used for grazing. Grazing destroys the leaf layer that protects the soil from erosion, can cause soil compaction, and destroys or damages seedlings. Forestland sites that are not used for grazing and where forest management activities are implemented have the highest potential for production.

Much of the existing commercial forestland in Harrison County could be improved by thinning out mature trees and undesirable species (timber stand improvement). The Natural Resources Conservation Service, the State Division of Forestry, consulting foresters, or the Cooperative Extension Service can help to determine specific woodland management needs, including assistance in establishing, improving, and preserving forestland.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

Forestland Productivity

In table 9 the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber,* a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to plant are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In table 10, parts I through IV, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a

specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forestland management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for seedling mortality are expressed as *low, moderate,* and *high.* Where these terms are used, the numerical ratings indicate gradations between the point at which the potential seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings,* the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil

erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreational Development

In table 11, parts I and II, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season

when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic

materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 12, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, rye, oats, sunflowers, and sorghum.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of cool-season grasses and legumes are lovegrass, bromegrass, clover, crown vetch, timothy, orchardgrass, trefoil, and alfalfa. Examples of warm-season grasses are big bluestem, little bluestem, indiangrass, sideoats gramma, and switchgrass.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

Examples of these plants are oak, poplar, cherry, sweetgum, willow, apple, hawthorn, hazelnut, dogwood, hickory, black walnut, blackberry, elderberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated good are hawthorn, American plum, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine and eastern red cedar.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, morning dove, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, and construction materials. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey,

determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 13, parts I and II, show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is

inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Table 14, parts I and II, show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates

that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a fragipan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise

stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill* solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 15, parts I and II, give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill, and topsoil. Normal

compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 15, part I, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 15, part II, the rating class terms are *good, fair,* or *poor.* The features that limit the soils as sources of reclamation material, roadfill, and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential)

Topoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and

fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 16 gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 11). “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

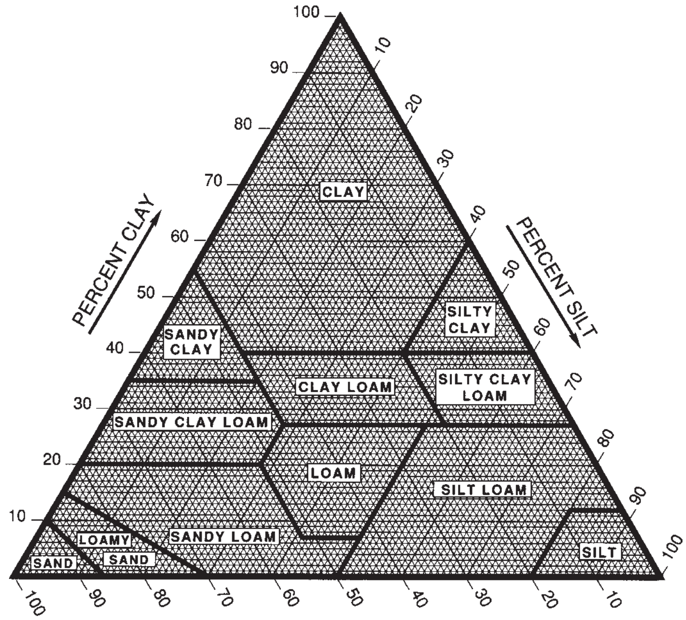

Figure 11.—Percentages of clay, silt, and sand in the basic USDA textural classes.

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Properties of the Soils

Table 17 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is

given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to

buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion Properties of the Soils

Table 18 shows the erosion factors as the K factor (Kw and Kf) and the T factor.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available at the local office of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Slope length is the horizontal distance, in feet, from the origin of overland flow to the point where either the slope gradient decreases enough that deposition begins or runoff becomes concentrated in a defined channel.

Slope gradient is the difference in elevation between two points and is expressed as a percentage of the distance between the two points. For example, a difference in elevation of 1 meter over a horizontal distance of 100 meters is a slope of 1 percent.

Chemical Properties of the Soils

Table 19 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality

(pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have a pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Water Features

Table 20 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface.

Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top *(upper limit)* and base *(lower limit)* of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the

water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 21 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability,

content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Soil slippage potential is the susceptibility of a soil mass to movement downslope when loaded, excavated, or wet. Soil slippage is caused by several natural factors, and the potential is greatly increased by human activity. Type of bedrock and depth to bedrock, slope gradient, position on the landform, clay mineralogy, and the shrink-swell potential are the most important natural factors. Shallow soils that formed in shale, have clay mineralogy, have a high shrink-swell potential, are on steep slopes, and are on footslopes or backslopes are the most susceptible to soil slippage.

Soils that have a medium or high slippage potential are even more susceptible to slippage where certain types of human activity have taken place. Factors that increase the potential for soil slippage include making cuts in hillsides during construction of roadbeds and houses; changing surface runoff patterns and allowing water to concentrate from leaking water and sewer lines; increasing weight on slopes by building structures or placing fill for building sites; changing the course of streams, thereby increasing the flow of water, or removing rock from the streambed, causing the base of slopes to be undercut; and removing vegetation.

Soil slippage causes damage to roads and structures and can endanger human life.

Areas that have slipped are susceptible to additional slippage and are generally too unstable for most construction uses.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 22 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud,* meaning humid, plus *alf,* from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Paleudalf (*Pale,* meaning excessive development, plus *udalf,* the suborder of the Alfisols that has an udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Paleudalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, active, mesic Typic Paleudalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

series. A pedon, a small three-dimensional area of soil that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002) and the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Alford Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Ultic Hapludalfs

Typical Pedon

Alford silt loam; on a 4 percent, convex east-facing slope in a cultivated field, 2,200 feet southwest of the northeast corner and then 1,200 feet southeast of the northwest boundary of donation 162, T. 2 N., R. 9 W.; Knox County, Indiana; USGS Fritchton, IN-IL topographic quadrangle; lat. 38 degrees 37 minutes 46.5 seconds N. and long. 87 degrees 26 minutes 5.6 seconds W.; UTM Zone 16, 462146 easting and 4275764 northing, NAD 83:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak medium granular structure; friable; few fine roots; moderately acid; abrupt smooth boundary.

Bt1—6 to 9 inches; brown (7.5YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; few fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—9 to 22 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct reddish brown (5YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt3—22 to 32 inches; brown (7.5YR 4/4) silty clay loam; moderate coarse subangular blocky structure; firm; few fine roots; many distinct reddish brown (5YR 4/4) clay films on faces of peds; common medium black (10YR 2/1) iron-manganese concretions; very strongly acid; clear wavy boundary.

Bt4—32 to 72 inches; brown (7.5YR 4/4) silt loam; weak coarse subangular blocky structure; friable; common distinct reddish brown (5YR 4/4) clay films on faces of peds; 1 percent sand; strongly acid; gradual wavy boundary.

2BC—72 to 80 inches; brown (7.5YR 4/4) silt loam; weak coarse subangular blocky structure; friable; 22 percent sand; moderately acid.

Range in Characteristics

Depth to base of argillic horizon: 44 to 80 inches

A or Ap horizon:

Hue—10YR
Value—4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid in non-limed areas; ranging to neutral in limed areas
Other characteristics—in severely eroded pedons, value ranges to 5 and chroma ranges to 6

Bt horizon:

Hue—10YR or 7.5YR
Value—4 or 5

Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid

BC or 2BC horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam
Reaction—very strongly acid to slightly acid

Alvin Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Alvin loam; on a slope of 7 percent in a cultivated field, 1,100 feet south and 1,950 feet west of the northeast corner of sec. 26, T. 5 S., R. 1 W.; Perry County, Indiana; USGS Alton, KY-IN topographic quadrangle; lat. 38 degrees 03 minutes 22.2 seconds N. and long. 86 degrees 29 minutes 07.4 seconds W.; UTM Zone 16, 545146 easting and 4212172 northing, NAD 83:

Ap—0 to 11 inches; dark yellowish brown (10YR 4/4) loam; weak fine subangular blocky structure; friable; common fine roots; very strongly acid; abrupt smooth boundary.

Bt1—11 to 25 inches; strong brown (7.5YR 5/6) loam; moderate fine subangular blocky structure; friable; common fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—25 to 31 inches; brown (10YR 4/4) fine sandy loam; moderate fine subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; strongly acid; clear smooth boundary.

E and Bt1—31 to 74 inches; 80 percent strong brown (7.5YR 5/6) loamy sand (E part); weak medium subangular blocky structure; very friable; 20 percent strong brown (7.5YR 5/6) sandy loam (Bt part) lamellae; friable; common distinct brown (7.5YR 4/4) clay bridging sand grains; strongly acid; clear wavy boundary.

E and Bt2—74 to 80 inches; 90 percent yellowish brown (10YR 5/4) loamy sand (E part); weak medium subangular blocky structure; single grain; loose; 10 percent brown (7.5YR 4/4) loamy sand and sandy loam (Bt part) lamellae; very friable; few distinct brown (7.5YR 4/4) clay bridging sand grains; strongly acid.

Range in Characteristics

Depth to base of argillic horizon: 40 to more than 80 inches

A or Ap horizon:
Hue—10YR
Value—3 or 4
Chroma—3 or 4 for the Ap horizon and 1 to 4 for the A horizon
Texture—loam, very fine sandy loam, fine sandy loam, sandy loam, loamy sand, or loamy fine sand
Reaction—very strongly acid to neutral, depending on liming history

E or BE horizon (if it occurs):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 or 4

Texture—fine sandy loam, loamy fine sand, or loamy sand
Reaction—strongly acid to slightly acid

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sandy loam, sandy loam, loam, or thin layers of sandy clay loam; including loamy fine sand or loamy sand in the lower part of horizon
Reaction—strongly acid to slightly acid

E and Bt horizon (E part):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—4 to 6
Texture—sandy loam, loamy sand, or sand or their fine analogues
Reaction—strongly acid to slightly acid

E and Bt horizon (Bt part):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—sandy loam, loamy sand, or sand or their fine analogues
Reaction—strongly acid to slightly acid

C horizon (if it occurs):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sand, sand, or loamy fine sand; including thin strata of silt, sandy loam, or fine sandy loam
Reaction—strongly acid to slightly acid

The Alvin soils in Harrison County are considered taxadjuncts to the series because they have a lower CEC to clay ratio than what is defined for the series. This difference, however, does not significantly affect the use and management of the soils. These soils classify as coarse-loamy, mixed, active, mesic Ultic Hapludalfs.

Apalona Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs (fig. 12)

Typical Pedon

Apalona silt loam; on a 3 percent slope in a cultivated field, 1,050 feet west and 1,450 feet north of the southeast corner of sec. 30, T. 4 S., R. 2 W.; Perry County, Indiana; USGS Bristow, IN topographic quadrangle; lat. 38 degrees 08 minutes 05.2 seconds N. and long. 86 degrees 39 minutes 47.0 seconds W.; UTM Zone 16, 529528 easting and 4220822 northing, NAD 83:

Ap—0 to 8 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots between peds; neutral; abrupt smooth boundary.
Bt1—8 to 16 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; many fine roots between peds; many faint strong brown (7.5YR 5/6) clay films on vertical and horizontal faces of peds; strongly acid; clear wavy boundary.
Bt2—16 to 22 inches; yellowish brown (10YR 5/6) silt loam; moderate medium

Figure 12.—Profile of Apalona silt loam in an area of Apalona-Zanesville silt loams, 2 to 6 percent slopes. This soil has a browner surface layer, an argillic horizon, and a fragipan developed in loess over a paleosol developed from interbedded sandstone and shale. Measurements are in centimeters.

subangular blocky structure; friable; many fine roots between peds; many faint yellowish brown (10YR 5/4) clay films on vertical and horizontal faces of peds; very strongly acid; clear wavy boundary.

Bt/E—22 to 25 inches; 75 percent brown (7.5YR 4/4) (Bt part) and 25 percent light gray (10YR 7/2) (E part) silt loam; weak fine prismatic structure parting to moderate fine angular blocky; firm; common fine roots between peds; few fine tubular pores; many faint light brownish gray (10YR 6/2) clay films on vertical and horizontal faces of peds; very strongly acid; clear wavy boundary.

Btx1—25 to 35 inches; brown (7.5YR 4/4) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; very firm; few fine roots in cracks; few fine tubular pores; common faint yellowish brown (10YR 5/4) clay films on vertical and horizontal faces of peds; few fine distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; few prominent light brownish gray (10YR 6/2) clay depletions on vertical faces of peds; 62 percent brittle; very strongly acid; clear wavy boundary.

Btx2—35 to 49 inches; light yellowish brown (10YR 6/4) silt loam; weak very coarse

prismatic structure parting to moderate medium subangular blocky; very firm; few distinct dark yellowish brown (10YR 4/6) and few distinct yellowish brown (10YR 5/4) clay films on vertical and horizontal faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; few fine spherical black (10YR 2/1) iron-manganese concretions; 1 percent channers (sandstone); 68 percent brittle; very strongly acid; clear smooth boundary.

2Bt1—49 to 60 inches; brownish yellow (10YR 6/8) clay; strong medium subangular blocky structure; very firm; many prominent brownish yellow (10YR 6/6) clay films on vertical and horizontal faces of peds; many fine prominent yellowish red (5YR 5/6) masses of oxidized iron in the matrix; few fine spherical black (10YR 2/1) iron-manganese concretions; 5 percent channers (sandstone); very strongly acid; gradual wavy boundary.

2Bt2—60 to 69 inches; brownish yellow (10YR 6/6) clay loam; strong coarse subangular blocky structure; firm; many prominent reddish yellow (7.5YR 6/6) clay films on vertical and horizontal faces of peds; few fine distinct yellowish red (5YR 5/6) masses of oxidized iron in the matrix; many coarse prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent channers (sandstone); strongly acid; gradual wavy boundary.

3BCt—69 to 90 inches; 60 percent strong brown (7.5YR 5/8) and 40 percent light brownish gray (10YR 6/2) loam; weak coarse subangular blocky structure; firm; very few prominent grayish brown (10YR 5/2) clay films on vertical faces of peds; 5 percent channers (sandstone); strongly acid; clear wavy boundary.

3Cr—90 to 96 inches; interbedded, weakly cemented shale with moderately and strongly cemented sandstone.

Range in Characteristics

Depth to fragipan: 15 to 40 inches
Depth to base of argillic horizon: 60 to more than 80 inches
Depth to bedrock (paralithic contact): 72 to more than 80 inches

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid in non-limed areas; ranging to neutral in limed areas

Bt or Bt/E horizon:
Hue—10YR or 7.5YR (Bt part); 10YR (E part)
Value—4 or 5 (Bt part); 5 to 7 (E part)
Chroma—4 to 6 (Bt part); 2 to 4 (E part)
Texture—silt loam or silty clay loam
Reaction—very strongly acid to moderately acid

Btx horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam, silty clay loam, or loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 5 percent

2Bt or 2BC horizon (if it occurs):
Hue—7.5YR to 5Y
Value—5 to 7

Chroma—1 to 8
Texture—commonly clay loam, silty clay, or clay; less commonly channery clay loam or parachannery to extremely parachannery analogues of silty clay or clay
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 50 percent in individual layers; average of 0 to 25 percent
Pararock fragment content—0 to 75 percent in individual layers; average of 0 to 34 percent

3BCt or 3Bt horizon (if it occurs):
Hue—7.5YR to 5Y
Value—5 to 7
Chroma—1 to 8
Texture—commonly sandy clay loam, sandy loam, very fine sandy loam, or loam; less commonly channery or very channery analogues of these textures
Reaction—very strongly acid to slightly acid
Rock fragment content—0 to 50 percent in individual layers; average of 0 to 34 percent

Cr horizon:
Texture—weakly or moderately cemented shale, sandstone, and siltstone interbedded with strongly cemented to indurated sandstone

Bartle Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragiaqualfs

Typical Pedon

Bartle silt loam; on a nearly level slope in a cultivated field, 625 feet north and 800 feet east of the southwest corner of sec. 19, T. 2 S., R. 5 E.; Floyd County, Indiana; USGS Crandall, Indiana topographic quadrangle; lat. 38 degrees 19 minutes 05.1 seconds N. and long. 86 degrees 00 minutes 32.9 seconds W.; UTM Zone 16, 586618 easting and 4241575 northing, NAD 83:

Ap—0 to 8 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/3) dry; moderate fine and medium granular structure; friable; common very fine and fine roots; neutral; abrupt smooth boundary.

EB—8 to 14 inches; pale brown (10YR 6/3) silt loam; weak fine subangular blocky structure; friable; few very fine roots; common fine and medium spherical black (10YR 2/1) iron-manganese concretions throughout; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; abrupt smooth boundary.

BEg—14 to 17 inches; light gray (10YR 7/2) silt loam; weak fine subangular blocky structure; friable; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium spherical black (10YR 2/1) iron-manganese concretions throughout; strongly acid; clear smooth boundary.

Bt—17 to 30 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; friable; many distinct light brownish gray (10YR 6/2) and common distinct brown (10YR 5/3) clay films on faces of peds and in pores; common fine and medium spherical black (10YR 2/1) iron-manganese concretions throughout; many medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; extremely acid; clear wavy boundary.

Btx—30 to 50 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; many distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common medium faint light

yellowish brown (10YR 6/4) and common fine prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; common fine and medium spherical black (10YR 2/1) iron-manganese concretions throughout; many medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; 45 percent brittle; very strongly acid; clear wavy boundary.

BC1—50 to 66 inches; pale brown (10YR 6/3) silt loam; weak medium and coarse subangular blocky structure; firm; common prominent very dark gray (N 3/0) iron-manganese masses in root channels; many medium faint light gray (10YR 7/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

BC2—66 to 80 inches; brownish yellow (10YR 6/8) silt loam; weak coarse subangular blocky structure; firm; common prominent very dark gray (N 3/0) iron-manganese masses in root channels; many medium prominent light gray (10YR 7/2) iron depletions in the matrix; 5 percent gravel; very strongly acid.

Range in Characteristics

Depth to a layer with fragic soil properties: 24 to 40 inches
Depth to the base of the argillic horizon: 48 to 72 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (2 to 4 inches thick):
Hue—10YR
Value—3 or 4
Chroma—1
Texture—silt loam
Reaction—very strongly acid to neutral

EB, BE, or BEg horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 6
Texture—silt loam
Reaction—extremely acid to moderately acid

Bt or Btg horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 6; where chroma is 3 or more, 50 percent or more of the faces of peds have chroma of 1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid to moderately acid

Btx or Btgx horizon:
Hue—10YR
Value—5 or 6
Chroma—1 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid

BC or BCg horizon:
Hue—10YR
Value—4 to 6

Chroma—1 to 8
Texture—silt loam, silty clay loam, or loam
Reaction—very strongly acid to neutral
Rock fragment content—0 to 14 percent gravel

The Bartle soils in Harrison County are considered taxadjuncts to the series because they do not have a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more as defined for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs.

Beanblossom Series

Taxonomic classification: Loamy-skeletal, mixed, active, mesic Fluventic Dystrudepts

Typical Pedon

Beanblossom silt loam; on a 1 percent slope in an idle field, 460 feet south and 430 feet west of the northeast corner of sec. 22, T. 7 N., R. 2 E.; Jackson County, Indiana; USGS Elkinsville, Indiana topographic quadrangle; lat. 39 degrees 01 minute 59.0 seconds N. and long. 86 degrees 16 minutes 56.8 seconds W.; UTM Zone 16, 562105 easting and 4320690 northing, NAD 83:

Ap—0 to 5 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; friable; many fine roots; about 10 percent gravel (mixed lithology but mainly siltstone); strongly acid; clear smooth boundary.
Bw—5 to 24 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable; common very fine and fine roots; about 5 percent gravel (mixed lithology but mainly siltstone); moderately acid; clear wavy boundary.
2C1—24 to 48 inches; brown (10YR 5/3) extremely channery silt loam; massive; very friable; few fine roots; about 70 percent siltstone channers; moderately acid; clear wavy boundary.
2C2—48 to 54 inches; yellowish brown (10YR 5/4) very channery silt loam; massive; very friable; about 45 percent siltstone channers; moderately acid; abrupt smooth boundary.
3Cr—54 to 60 inches; moderately cemented siltstone bedrock.

Range in Characteristics

Depth to the base of the cambic horizon: 20 to 34 inches
Depth to bedrock (paralithic contact): 40 to 60 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—strongly acid to neutral
Rock fragment content—0 to 14 percent gravel and channers

A horizon (less than 6 inches thick):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral
Rock fragment content—0 to 14 percent gravel and channers

Bw or 2Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—commonly silt loam or loam; less commonly their channery, very channery, gravelly, or very gravelly analogues
Reaction—strongly acid to neutral
Rock fragment content—5 to 50 percent channers

2C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—very channery or extremely channery analogues of silt loam or loam
Reaction—moderately acid or slightly acid
Rock fragment content—35 to 80 percent channers

3Cr horizon:
Texture—weakly cemented or moderately cemented siltstone or shale

Bedford Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs (fig. 13)

Typical Pedon

Bedford silt loam; on a 4 percent slope in a cultivated field, 600 feet north and 1,300 feet west of the southeast corner of sec. 27, T. 5 S., R. 4 E.; Harrison County, Indiana; USGS Laconia, IN-KY topographic quadrangle; lat. 38 degrees 02 minutes 26.1 seconds N. and long. 86 degrees 03 minutes 16.6 seconds W.; UTM Zone 16, 582956 easting and 4210741 northing, NAD 83:

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; common fine roots; many fine pores; moderately acid; abrupt smooth boundary.

Bt1—10 to 17 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many fine pores; many prominent brown (7.5YR 4/4) clay films on faces of peds; slightly acid; clear wavy boundary.

Bt2—17 to 24 inches; yellowish brown (10YR 5/6) silt loam; moderate coarse and medium subangular blocky structure; friable; common fine roots; many prominent brown (7.5YR 4/4) clay films on faces of peds; common distinct brown (10YR 5/3) silt coats on faces of peds; very strongly acid; clear wavy boundary.

Btx1—24 to 31 inches; yellowish brown (10YR 5/6) silt loam; strong very coarse prismatic structure parting to moderate coarse angular blocky; very firm; common fine roots on faces of peds; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; common distinct light gray (10YR 6/3) silt coats on faces of peds; common fine faint yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine distinct very dark grayish brown (10YR 3/2) iron-manganese concretions in the matrix; many fine prominent gray (10YR 5/1) iron depletions in the matrix; 65 percent brittle; very strongly acid; clear wavy boundary.

2Btx2—31 to 45 inches; brown (10YR 5/3) silty clay loam; moderate very coarse prismatic structure parting to moderate coarse subangular blocky; very firm; many distinct yellowish brown (10YR 5/6) clay films on faces of peds; common distinct very pale brown (10YR 7/3) silt coats on faces of peds; common fine prominent

Figure 13.—Profile of Bedford silt loam, 2 to 6 percent slopes, showing a fragipan in loess and a reddish paleosol developed in residuum from limestone. Measurements are in feet.

yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; many medium distinct gray (10YR 5/1) iron depletions in the matrix; 7 percent chert gravel; 70 percent brittle; very strongly acid; clear wavy boundary.

2Btx3—45 to 58 inches; strong brown (7.5YR 4/6) silty clay loam; moderate very coarse prismatic structure parting to moderate medium angular blocky and moderate coarse subangular blocky; firm; common prominent light red (2.5YR 6/8) clay films on faces of peds; common distinct very pale brown (10YR 7/3) silt coats on faces of peds; common fine distinct yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; many medium distinct gray (10YR 5/1) iron depletions in the matrix; 5 percent chert gravel; 62 percent brittle; very strongly acid; clear wavy boundary.

3Btb1—58 to 73 inches; strong brown (7.5YR 5/6) silty clay loam; moderate coarse and medium subangular blocky structure; firm; common prominent red (2.5YR 4/8) and common distinct strong brown (10YR 4/4) clay films on faces of peds; many medium prominent gray (10YR 5/1) iron depletions in the matrix; 20 percent chert gravel; very strongly acid; gradual wavy boundary.

3Btb2—73 to 86 inches; 70 percent red (2.5YR 4/6) and 30 percent strong brown (7.5YR 5/6) silty clay; moderate medium and coarse subangular blocky structure; firm; many prominent red (10R 4/8) clay films on faces of peds; many fine prominent gray (10YR 5/1) iron depletions in the matrix; 10 percent chert gravel; very strongly acid.

Range in Characteristics

Depth to a fragipan: 20 to 38 inches
Thickness of the loess: 20 to 40 inches
Depth to the base of the argillic horizon: More than 80 inches
Depth to bedrock (lithic contact): More than 80 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranging to neutral in limed areas

E horizon (if it occurs):
Hue—10YR
Value—6
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon and BE horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid; ranging to slightly acid in the upper part of horizon in limed areas

Btx or 2Btx horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—commonly silt loam or silty clay loam; less commonly their gravelly analogues

Reaction—extremely acid to strongly acid
Rock fragment content—0 to 30 percent chert gravel; including cobbles

3Btb horizon:
Hue—horizon typically is multicolored and has hue of 2.5YR or 5YR; it less commonly has hue of 7.5YR
Value—3 to 6
Chroma—4 to 6
Texture—commonly silty clay loam, silty clay, or clay; less commonly their gravelly analogues
Reaction—extremely acid to strongly acid in the upper part of horizon and very strongly acid or strongly acid in the lower part
Rock fragment content—2 to 30 percent chert gravel; including cobbles

Bloomfield Series

Taxonomic classification: Sandy, mixed, mesic Lamellic Hapludalfs

Typical Pedon

Bloomfield loamy sand; on a 6 percent slope in an idle cultivated field, 1,050 feet west and 550 feet north of the southeast corner of sec. 29, T. 7 S., R. 2 W.; Perry County, Indiana; USGS Cloverport, KY-IN topographic quadrangle; lat. 37 degrees 52 minutes 05.9 seconds N. and long. 86 degrees 38 minutes 43.9 seconds W.; UTM Zone 16, 531177 easting and 4191263 northing, NAD 83:

Ap—0 to 4 inches; dark yellowish brown (10YR 4/4) loamy sand; weak fine granular structure; very friable; many fine and medium roots; strongly acid; abrupt smooth boundary.
E—4 to 17 inches; dark yellowish brown (10YR 4/6) loamy sand; weak fine granular structure; very friable; common fine roots; strongly acid; gradual wavy boundary.
E and Bt—17 to 41 inches; 85 percent dark yellowish brown (10YR 4/6) sand (E part); single grain; loose; 15 percent wavy and discontinuous brown (7.5YR 4/4) loamy fine sand lamellae (Bt part) $^{1}/_{16}$ to $^{3}/_{8}$ inch in thickness, with a total thickness of about 3 inches; few fine roots; moderately acid; gradual wavy boundary.
Bt and E—41 to 80 inches; 55 percent wavy, continuous and discontinuous brown (7.5YR 4/4) loamy fine sand lamellae (Bt part) variable in thickness; weak fine subangular blocky structure; very friable; 45 percent dark yellowish brown (10YR 4/6) fine sand (E part), single grain and loose; moderately acid.

Range in Characteristics

Depth to base of soil development: 60 to more than 80 inches
Thickness of lamellae: Combined thickness above a depth of 60 inches is more than 6 inches

A or Ap horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—sand, loamy sand, fine sand, or loamy fine sand
Reaction—strongly acid to slightly acid in non-limed areas; ranging to neutral in limed areas

E horizon:
Hue—10YR
Value—4 to 6

Chroma—3 to 6
Texture—sand, loamy sand, fine sand, or loamy fine sand
Reaction—strongly acid to slightly acid in non-limed areas; ranging to neutral in limed areas

E and Bt horizon and Bt and E horizon (E part):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—fine sand, loamy fine sand, loamy sand, or sand

E and Bt horizon and Bt and E horizon (B part, lamellae and banded layers):
Hue—commonly 10YR or 7.5YR; less commonly 5YR
Value—3 to 5
Chroma—3 to 6
Texture—commonly loamy fine sand, loamy sand, or fine sand; less commonly sand; a few lamellae can be fine sandy loam or sandy loam
Reaction—strongly acid or moderately acid; ranging to neutral in the lower part

Bromer Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs

Typical Pedon

Bromer silt loam; in a depression in an idle crop field, 2,050 feet east and 200 feet south of the northwest corner of sec. 25, T. 1 S., R. 4 E.; Floyd County, Indiana; USGS Palmyra, Indiana topographic quadrangle; lat. 38 degrees 24 minutes 17.9 seconds N. and long. 86 degrees 01 minute 22.3 seconds W.; UTM Zone 16, 585315 easting and 4251204 northing, NAD 83:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate medium and fine granular structure; friable; many medium distinct brown (7.5YR 4/4) masses of oxidized iron lining pores; neutral; abrupt smooth boundary.

Bt1—8 to 16 inches; light yellowish brown (10YR 6/4) silt loam; moderate medium granular structure; friable; few distinct light olive brown (2.5Y 5/4) clay films on faces of peds; few medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; abrupt smooth boundary.

Bt2—16 to 25 inches; brown (10YR 5/3) silty clay loam; moderate medium and fine subangular blocky structure; friable; many distinct dark grayish brown (2.5Y 4/2) and common distinct grayish brown (10YR 5/2) clay films on faces of peds; few medium faint brown (7.5YR 4/4) masses of oxidized iron in the matrix; many fine distinct pale brown (10YR 6/3) clay depletions on faces of peds; very strongly acid; clear smooth boundary.

Bt3—25 to 34 inches; brown (10YR 5/3) silty clay loam; moderate medium and fine subangular blocky structure; firm; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium faint brown (7.5YR 4/4) masses of oxidized iron in the matrix; few fine distinct light gray (10YR 7/2) clay depletions on faces of peds; very strongly acid; clear smooth boundary.

2Btgb1—34 to 51 inches; grayish brown (10YR 5/2) clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; many medium prominent strong brown (7.5YR 4/6) and common medium faint light olive brown (2.5Y 5/3) masses of oxidized iron in the matrix; many fine prominent light gray (10YR 7/2) clay

depletions on faces of peds; 45 percent brittle; very strongly acid; clear wavy boundary.

2Btgb2—51 to 72 inches; grayish brown (10YR 5/2) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; few medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; common fine distinct light gray (10YR 7/2) clay depletions on faces of peds; very strongly acid; gradual wavy boundary.

2Btgb3—72 to 80 inches; grayish brown (10YR 5/2) silty clay; moderate fine and medium subangular blocky structure; firm; many distinct gray (10YR 5/1) and few distinct olive brown (2.5Y 4/3) clay films on faces of peds; common fine prominent light gray (10YR 7/2) clay depletions on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; very strongly acid.

Range in Characteristics

Thickness of loess or silty sediments: 20 to 40 inches
Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (if it occurs):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt or BE horizon:
Hue—10YR
Value—5 to 7
Chroma—1 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon

2Bt or 2Btgb horizon:
Hue—7.5YR or 10YR
Value—5 to 7
Chroma—2 to 8
Texture—silty clay or clay
Reaction—very strongly acid to moderately acid
Rock fragment content—0 to 10 percent gravel

Brownstown Series

Taxonomic classification: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon

Brownstown silt loam; on a southeast-facing, convex, 48 percent slope in a forested area, 500 feet west and 1,550 feet south of the northeast corner of sec. 28, T. 2 N., R. 6 E.; Scott County, Indiana; USGS Henryville, Indiana topographic quadrangle; lat. 38

degrees 35 minutes 4.1 seconds N. and long. 85 degrees 51 minutes 57.9 seconds W.; UTM Zone 16, 598760 easting and 4271279 northing, NAD 83:

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.
E/A—1 to 6 inches; 90 percent light yellowish brown (10YR 6/4) (E part) and 10 percent dark grayish brown (10YR 4/2) (A part) silt loam, very pale brown (10YR 8/4) and light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many very fine to medium roots; 5 percent channers; very strongly acid; clear wavy boundary.
Bw—6 to 18 inches; brownish yellow (10YR 6/6) channery silt loam; weak medium subangular blocky structure; friable; few very fine and fine and common medium and coarse roots; 20 percent channers; very strongly acid; gradual wavy boundary.
CB—18 to 36 inches; yellowish brown (10YR 5/4) extremely channery silt loam; weak fine subangular blocky structure; friable; few very fine to medium roots; 65 percent channers and 5 percent flagstones; very strongly acid; gradual wavy boundary.
R—36 to 60 inches; fractured, strongly cemented siltstone bedrock.

Range in Characteristics

Depth to the base of the cambic horizon: 12 to 24 inches
Depth to bedrock (lithic contact): 20 to 40 inches

O horizon (if it occurs):
Texture—slightly or partially decomposed organic materials

A part of E/A horizon or A horizon (if it occurs):
Hue—10YR
Value—3 or 4
Chroma—2 or 3

E part of E/A horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or channery silt loam
Reaction—extremely acid to slightly acid
Rock fragment content—0 to 34 percent channers and flagstones

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—channery to extremely channery analogues of silt loam
Reaction—extremely acid to strongly acid
Rock fragment content—20 to 75 percent channers and flagstones

CB horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 6
Texture—extremely channery silt loam
Reaction—extremely acid to strongly acid
Rock fragment content—60 to 85 percent channers and flagstones

Brussels Series

Taxonomic classification: Clayey-skeletal, mixed, superactive, mesic Typic Hapludolls

Typical Pedon

Brussels very flaggy silty clay loam; on a 60 percent west-facing slope in a hardwood forest, about 2 miles north of Troy, 1,800 feet south and 100 feet west of the northeast corner of sec. 10, T. 49 N., R. 1 W.; Lincoln County, Missouri; USGS Okete, Missouri topographic quadrangle; lat. 38 degrees 01 minute 38.0 seconds N. and long. 90 degrees 59 minutes 32.0 seconds W.; UTM Zone 15, 676221 easting and 4210738 northing, NAD 83:

A—0 to 5 inches; black (10YR 2/1) very flaggy silty clay loam, very dark gray (10YR 3/1) dry; moderate very fine granular structure; firm; many fine roots; about 35 percent flagstones of limestone; moderately alkaline; clear smooth boundary.

Bw1—5 to 15 inches; very dark grayish brown (10YR 3/2) very flaggy silty clay, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure; firm; many fine roots; 35 percent flagstones of limestone; moderately alkaline; gradual smooth boundary.

Bw2—15 to 35 inches; brown (10YR 4/3) very flaggy silty clay; moderate fine subangular blocky structure; firm; common fine roots; 40 percent flagstones of limestone; moderately alkaline; gradual smooth boundary.

Bw3—35 to 60 inches; brown (7.5YR 4/4) very flaggy silty clay loam; weak fine subangular blocky structure; firm; common fine roots; 40 percent flagstones of limestone; moderately alkaline.

Range in Characteristics

Mollic epipedon thickness: 10 to 24 inches thick
Solum thickness and depth to bedrock (lithic contact): More than 60 inches

A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—flaggy, channery, gravelly, very flaggy, or very channery analogues of silty clay loam
Reaction—slightly acid to moderately alkaline
Rock fragment content—15 to 60 percent channers, flagstones, and gravel

Bw horizon:
Hue—10YR, 7.5YR, or 5YR
Value—3 or 4
Chroma—2 to 6
Texture—very flaggy, extremely flaggy, or very gravelly analogues of silty clay loam, silty clay, or clay
Reaction—slightly acid to moderately alkaline
Rock fragment content—35 to 65 percent flagstones, channers, and gravel

Caneyville Series

Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs (fig. 14)

Typical Pedon

Caneyville silt loam; on a 15 percent slope in pasture, 300 feet south and 100 feet west of the northeast corner of sec. 20, T. 6 N., R. 1 W.; Lawrence County, Indiana; USGS Bartlettsville, Indiana topographic quadrangle; lat. 38 degrees 56 minutes 28.8 seconds N. and long. 86 degrees 25 minutes 32.6 seconds W.; UTM Zone 16, 549768 easting and 4310425 northing, NAD 83:

Figure 14.—Profile of Caneyville silt loam in an area of Vertrees-Crider-Caneyville silt loams, karst, hilly, eroded. The Caneyville soil has a very thin loess cap over very clayey residuum developed from limestone. Measurements are in feet.

Ap—0 to 8 inches; 90 percent brown (10YR 4/3) and 10 percent dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Bt1—8 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; common medium faint yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; neutral; clear wavy boundary.

2Bt2—14 to 33 inches; yellowish red (5YR 4/6) silty clay; strong coarse angular blocky structure; firm; many distinct yellowish red (5YR 5/8) clay films on faces of peds;

1-inch-thick layer of dark yellowish brown (10YR 4/4) clay at a depth of 32 inches; strongly acid in the upper part and neutral at a depth of 32 inches; abrupt smooth boundary.

2R—33 to 60 inches; indurated limestone bedrock.

Range in Characteristics

Thickness of the loess: 0 to 18 inches
Thickness of solum and depth to bedrock (lithic contact): 20 to 40 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam; ranging to silty clay loam in severely eroded pedons
Reaction—strongly acid to neutral
Rock fragment content—0 to 5 percent chert gravel

A horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral
Rock fragment content—0 to 5 percent chert gravel

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam, silty clay loam, or clay
Reaction—very strongly acid to neutral
Rock fragment content—0 to 5 percent chert gravel

2Bt horizon:
Hue—commonly 5YR or 7.5YR; less commonly 2.5YR
Value—4 or 5
Chroma—4 to 8
Texture—clay or silty clay
Reaction—dominantly strongly acid to neutral; ranging to slightly alkaline in the lower part of horizon
Rock fragment content—0 to 14 percent chert gravel

The Caneyville soils in Harrison County in map units VcaC3, VcbD2, and VccD3 are considered taxadjuncts to the series because they average more that 60 percent clay in the particle-size control section and have a lower CEC to clay ratio than what is defined for the series. These differences, however, do not significantly affect the use and management of the soils. These soils are classified as very fine, mixed, semiactive, mesic Typic Hapludalfs.

Crider Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Paleudalfs (fig. 15)

Typical Pedon

Crider silt loam; on a 5 percent slope in a pasture field, 900 feet east and 2,300 feet north of the southwest corner of sec. 5, T. 2 S., R. 5 E.; Floyd County, Indiana; USGS

Figure 15.—Profile of Crider silt loam in an area of Crider-Vertrees silt loams, karst, rolling, eroded. This very deep soil has a 3-foot-thick loess cap over a cherty layer over a paleosol developed from clayey limestone residuum. Measurements are in feet.

Georgetown, Indiana topographic quadrangle; lat. 38 degrees 22 minutes 1.7 seconds N. and long. 85 degrees 59 minutes 20.7 seconds W.; UTM Zone 16, 588312 easting and 4247035 northing, NAD 83:

Ap—0 to 8 inches; 90 percent dark yellowish brown (10YR 4/4) and 10 percent yellowish brown (10YR 5/6) silt loam, light yellowish brown (10YR 6/4) and very pale brown (10YR 7/4) dry; weak fine and medium subangular blocky structure parting to moderate fine granular; friable; neutral; abrupt smooth boundary.

Bt1—8 to 17 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; many prominent brown (7.5YR 4/4) clay films on faces of peds; few fine distinct dark brown (10YR 3/3) organic coatings on

faces of peds; few fine prominent black (10YR 2/1) manganese coatings on faces of peds and in pores; 1 percent chert gravel; neutral; clear wavy boundary.

Bt2—17 to 24 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; many prominent brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) manganese coatings on faces of peds and in pores; 1 percent chert gravel; slightly acid; clear wavy boundary.

2Bt3—24 to 34 inches; strong brown (7.5YR 4/6) silt loam; moderate fine subangular blocky structure; friable; common prominent yellowish red (5YR 4/6) clay films on faces of peds and in pores; common prominent yellowish brown (10YR 5/4) clay films on faces of peds; few fine prominent black (10YR 2/1) manganese coatings on faces of peds; 4 percent angular limestone flagstones and 10 percent angular chert gravel; strongly acid; clear wavy boundary.

2Bt4—34 to 46 inches; yellowish red (5YR 5/6) silty clay loam; moderate fine subangular blocky structure; firm; common prominent red (2.5YR 4/6) and common prominent yellowish brown (10YR 5/4) clay films on faces of peds; few fine prominent black (10YR 2/1) manganese coatings on faces of peds; 4 percent angular chert gravel and 1 percent angular limestone flagstones; very strongly acid; clear wavy boundary.

3Bt5—46 to 56 inches; red (2.5YR 4/6) silty clay; moderate very fine angular blocky structure; firm; common prominent brown (7.5YR 4/4) and many prominent red (2.5YR 4/6) clay films on faces of peds; few fine prominent black (10YR 2/1) manganese coatings on faces of peds; 2 percent angular chert gravel; very strongly acid; clear wavy boundary.

3Bt6—56 to 65 inches; red (2.5YR 4/6) clay; moderate very fine angular blocky structure; firm; common prominent brown (7.5YR 4/4) and many prominent red (2.5YR 4/6) clay films on faces of peds; few fine prominent black (10YR 2/1) manganese coatings on faces of peds; 2 percent angular chert gravel; very strongly acid; clear wavy boundary.

3Bt7—65 to 76 inches; 70 percent yellowish red (5YR 5/6) and 30 percent strong brown (7.5YR 5/6) silty clay; moderate very fine and fine angular blocky structure; firm; many prominent red (2.5YR 4/8) and few prominent strong brown (7.5YR 4/6) clay films on faces of peds; few fine prominent black (10YR 2/1) manganese coatings on faces of peds; few fine irregular black (10YR 2/1) iron-manganese concretions throughout; 3 percent chert gravel; strongly acid; clear wavy boundary.

3Bt8—76 to 80 inches; strong brown (7.5YR 5/6) clay; moderate very fine and fine angular blocky structure; firm; many prominent yellowish red (5YR 4/6) and few prominent strong brown (7.5YR 4/6) clay films on faces of peds; common fine prominent black (10YR 2/1) manganese coatings on faces of peds; common fine irregular black (10YR 2/1) iron-manganese concretions throughout; 3 percent chert gravel; strongly acid.

Range in Characteristics

Thickness of the loess: 20 to 45 inches
Depth to the base of the argillic horizon: 60 to more than 80 inches
Depth to bedrock (lithic contact): 60 to 120 inches or more

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (if it occurs):
Hue—10YR
Value—4
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silty clay loam or silt loam
Reaction—commonly very strongly acid or strongly acid; ranging to neutral in the upper part of horizon
Rock fragment content—0 to 2 percent chert gravel

2Bt horizon:
Hue—2.5YR to 7.5YR
Value—3 to 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 14 percent chert gravel

3Bt horizon:
Hue—2.5YR to 7.5YR
Value—3 to 6
Chroma—4 to 8
Texture—silty clay or clay
Reaction—very strongly acid to moderately acid
Rock fragment content—0 to 14 percent chert gravel; including flagstones and stones

Deuchars Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Deuchars silt loam; on a 15 percent slope in woodland, 2,400 feet east and 2,690 feet south of the northwest corner of sec. 5, T. 4 S., R. 1 W.; Perry County, Indiana; USGS Branchville, Indiana topographic quad sheet; lat. 38 degrees 11 minutes 58.0 seconds N. and long. 86 degrees 32 minutes 45.0 seconds W.; UTM Zone 16, 539766 easting and 4228042 northing, NAD 83:

A1—0 to 2 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; weak very fine granular structure; friable; many fine roots; strongly acid; abrupt smooth boundary.
A2—2 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; friable; many fine and medium roots; strongly acid; clear smooth boundary.
EB—6 to 10 inches; yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.
Bt1—10 to 18 inches; strong brown (7.5YR 5/6) silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; few faint strong brown (7.5YR 5/6) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—18 to 23 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; common fine roots; many faint strong brown (7.5YR 5/6) clay films on faces of peds; common distinct light yellowish brown (10YR 6/4) silt coats on faces of peds; very strongly acid; clear wavy boundary.
Bt3—23 to 30 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; many faint strong brown (7.5YR 5/6) clay films on faces of peds; many distinct light yellowish brown (10YR 6/4) silt coats on faces of peds; 5 percent sandstone parachanners; very strongly acid; clear wavy boundary.
2Bt4—30 to 33 inches; light yellowish brown (10YR 6/4) clay; strong angular blocky structure; firm; few fine roots; many faint light yellowish brown (10YR 6/4) clay films on faces of peds; many medium distinct strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; few fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few distinct light brownish gray (10YR 6/2) clay depletions on faces of peds; very strongly acid; clear wavy boundary.
2Bt5—33 to 41 inches; strong brown (7.5YR 5/6) clay; strong medium angular blocky structure; firm; few fine roots; common distinct yellowish brown (10YR 5/6) and many prominent gray (10YR 6/1) clay films on faces of peds; many medium prominent gray (10YR 6/1) iron depletions in the matrix; very strongly acid; clear wavy boundary.
2Bt6—41 to 55 inches; yellowish brown (10YR 5/6) clay; strong medium angular blocky structure; firm; few fine roots; many faint yellowish brown (10YR 5/6) and many prominent gray (10YR 6/1) clay films on faces of peds; many medium prominent gray (5Y 6/1) iron depletions in the matrix; very strongly acid; clear wavy boundary.
2BC—55 to 62 inches; yellowish brown (10YR 5/6) parachannery clay; weak fine angular blocky structure; firm; many medium prominent gray (5YR 6/1) iron depletions in the matrix; 20 percent shale parachanners; very strongly acid; clear wavy boundary.
2Cr—62 to 80 inches; gray (10YR 6/1) moderately cemented shale; many medium prominent brown (7.5YR 4/4) masses of oxidized iron on shale fragments; strongly acid.

Range in Characteristics

Depth to base of argillic horizon: 48 to more than 80 inches
Depth to bedrock (paralithic contact): 60 to more than 80 inches

A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 or 3

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid or strongly acid in non-limed areas; ranging to neutral in limed areas

EB horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 5
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid

2Bt horizon:
Hue—5YR to 5Y
Value—5 or 6
Chroma—1 to 6
Texture—silty clay loam, silty clay, or clay or their parachannery analogues
Reaction—extremely acid to strongly acid; ranging to moderately acid in the lower part of horizon
Pararock fragment content—0 to 25 percent parachanners

2BC horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—1 to 6
Texture—silty clay or clay or their parachannery analogues
Reaction—very strongly acid to neutral
Pararock fragment content—0 to 25 percent parachanners

Cr horizon:
Hue—5Y to 7.5YR
Value—5 or 6
Chroma—1

Ebal Series

Taxonomic classification: Fine, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Ebal silt loam; on a 15 percent convex south-facing slope in a forested area, 2,060 feet south and 920 feet east of the northwest corner of sec. 8, T. 7 N., R. 2 W.; Monroe County, Indiana; USGS Stanford, Indiana topographic quadrangle; lat. 39 degrees 03 minutes 33.4 seconds N. and long. 86 degrees 39 minutes 46.8 seconds W.; UTM Zone 16, 529157 easting and 4323410 northing, NAD 83:

A—0 to 3 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many fine, medium, and coarse roots; 10 percent sandstone channers; strongly acid, clear smooth boundary.

BE—3 to 8 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; many fine, medium, and coarse roots; 10 percent sandstone channers, 3 percent greater than 3/4 inch in length; strongly acid; clear wavy boundary.

Bt1—8 to 13 inches; yellowish brown (10YR 5/4) channery silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; common faint yellowish brown (10YR 5/4) clay films on faces of peds; 23 percent sandstone channers; very strongly acid; clear wavy boundary.

2Bt2—13 to 21 inches; yellowish brown (10YR 5/4) very channery silty clay; moderate medium subangular blocky structure; firm; common fine and medium roots; common faint yellowish brown (10YR 5/4) clay films on faces of peds; 38 percent sandstone channers; very strongly acid; clear wavy boundary.

2Bt3—21 to 41 inches; red (2.5YR 4/6) clay; strong medium angular blocky structure; firm; few fine and medium roots; common distinct yellowish brown (10YR 5/6) clay films on faces of peds; many medium prominent gray (10YR 6/1) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Bt4—41 to 48 inches; yellowish brown (10YR 5/4) clay; moderate medium angular blocky structure; firm; few fine and medium roots; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; many coarse prominent red (2.5YR 4/6) masses of oxidized iron and many coarse distinct gray (10YR 6/1) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Bt5—48 to 61 inches; yellowish brown (10YR 5/4) clay; moderate medium angular blocky structure; firm; few fine and medium roots; common dark gray (10YR 4/1) and brown (10YR 5/3) slickensides; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/8) masses of oxidized iron and many coarse distinct gray (10YR 6/1) iron depletions in the matrix; strongly acid; gradual wavy boundary.

2Cr—61 to 80 inches; gray (10YR 6/1) moderately cemented shale; many medium prominent brown (7.5YR 4/4) masses of oxidized iron on shale fragments; strongly acid.

Range in Characteristics

Depth to base of argillic horizon and paralithic contact: 50 to 90 inches

A, Ap, or BE horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral, depending on liming history
Rock fragment content—0 to 12 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—5
Chroma—3 to 6
Texture—silt loam, loam, or silty clay loam or the channery or very channery analogues of these textures
Reaction—very strongly acid to strongly acid
Rock fragment content—0 to 40 percent

2Bt or 2BC horizon:
Hue—5Y to 2.5YR
Value—4 to 6
Chroma—1 to 8
Texture—clay or silty clay; including the channery or very channery analogues in the upper part of horizon and the parachannery or very parachannery analogues in the lower part
Reaction—extremely acid to moderately acid in the upper part of horizon; ranging to neutral in the lower part
Rock fragment content—0 to 40 percent in the upper part of horizon and 0 to 5 percent in the lower part

2Cr horizon:
Hue—5Y to 7.5YR
Value—5 or 6
Chroma—1

Elkinsville Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Elkinsville silt loam; on a 3 percent slope in a cultivated field, 1,690 feet south and 1,370 feet east of the northwest corner of sec. 3, T. 6 N., R. 12 E.; Ripley County, Indiana; USGS Cross Plains, Indiana topographic quadrangle; lat. 38 degrees 59 minutes 46.1 seconds N. and long. 85 degrees 10 minutes 47.8 seconds W.; UTM Zone 16, 657615 easting and 4317926 northing, NAD 83:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.

Bt1—9 to 15 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; friable; few fine roots; few faint yellowish brown (10YR 5/4) clay films on faces of peds; few fine distinct brown (10YR 4/3) organic coatings on faces of peds; slightly acid; gradual smooth boundary.

Bt2—15 to 24 inches; yellowish brown (l0YR 5/6) silt loam; moderate fine subangular blocky structure; firm; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; very strongly acid; gradual smooth boundary.

2Bt3—24 to 38 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct brown (7.5YR 5/4) clay films on faces of peds; 1 percent gravel; very strongly acid; gradual smooth boundary.

2Bt4—38 to 50 inches; strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; firm; few fine roots; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; 1 percent gravel; very strongly acid; gradual smooth boundary.

2Bt5—50 to 58 inches; strong brown (7.5YR 5/6) sandy clay loam; few fine prominent pale brown (10YR 6/3) mottles; weak fine subangular blocky structure; friable; few distinct yellowish brown (10YR 5/4) clay bridging between sand grains; common irregular fine and medium masses of oxidized iron in the matrix; very strongly acid; gradual smooth boundary.

2CB—58 to 68 inches; yellowish brown (10YR 5/6) clay loam; common fine distinct pale brown (10YR 6/3) mottles; massive; friable; common irregular fine and medium masses of oxidized iron in the matrix; 1 percent gravel; strongly acid; clear smooth boundary.

2C—68 to 80 inches; dark yellowish brown (l0YR 4/4) loam; massive; friable; 4 percent gravel; moderately acid.

Range in Characteristics

Thickness of the loess: Less than 40 inches
Depth to the base of the argillic horizon: 42 to 72 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (if it occurs):
Hue—10YR
Value—4 or 5
Chroma—2 to 4

Texture—silt loam
Reaction—very strongly acid or strongly acid

EB or BE horizon (if it occurs):
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon in limed areas

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon in limed areas

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, clay loam, or sandy clay loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 5 percent gravel

2BC or 2CB horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, sandy loam, fine sandy loam, clay loam, or sandy clay loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 5 percent gravel

2C horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—loam, sandy loam, or fine sandy loam; including thin strata of clay loam or sandy clay loam
Reaction—very strongly acid to moderately acid
Rock fragment content—0 to 14 percent gravel

Gatchel Series

Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Gatchel loam; in a nearly level area in woodland, 1,320 feet east and 3,168 feet south of the northwest corner of sec. 6, T. 4 S., R. 1 W.; Perry County, Indiana; USGS Branchville, IN topographic quadrangle; lat. 38 degrees 11 minutes 53.9 seconds N. and long. 86 degrees 34 minutes 01.0 second W.; UTM Zone 16, 537918 easting and 4227909 northing, NAD 83:

A—0 to 4 inches; dark brown (10YR 3/3) loam, brown (10YR 4/3) rubbed and pale

brown (10YR 6/3) dry; moderate fine and medium subangular blocky structure; friable; common fine and medium roots; moderately acid; clear wavy boundary.

Bw1—4 to 9 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; friable; common fine roots; slightly acid; clear wavy boundary.

Bw2—9 to 14 inches; brown (10YR 4/3) fine sandy loam; weak fine and medium subangular blocky structure; friable; common fine roots; slightly acid; clear wavy boundary.

Bw3—14 to 18 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable; common fine roots; 2 percent gravel; slightly acid; clear wavy boundary.

2C1—18 to 38 inches; yellowish brown (10YR 5/4) extremely channery coarse sandy loam; massive; very friable; 80 percent siltstone and sandstone channers and gravel; slightly acid; clear wavy boundary.

2C2—38 to 60 inches; yellowish brown (10YR 5/4) extremely channery sandy loam; massive; very friable; 80 percent siltstone and sandstone channers and gravel; slightly acid.

Range in Characteristics

Depth to very channery or extremely channery material: 10 to 30 inches
Depth to base of cambic horizon: 12 to 30 inches

A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam
Reaction—moderately acid to neutral
Rock fragment content—0 to 10 percent gravel

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam, fine sandy loam, or sandy loam
Reaction—moderately acid to neutral
Rock fragment content—0 to 10 percent gravel

2C horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—the very channery or extremely channery analogues of loam, fine sandy loam, sandy loam, or coarse sandy loam
Reaction—moderately acid to neutral
Rock fragment content—35 to 80 percent gravel

Gatton Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon

Gatton silt loam; on a 3 percent slope in a cultivated field, 1,000 feet east and 1,100 feet north of the southwest corner of sec. 20, T. 1 S., R. 5 E.; Floyd County, Indiana; USGS Borden, Indiana topographic quadrangle; lat. 38 degrees 24 minutes 34.8 seconds N. and long. 85 degrees 59 minutes 23.4 seconds W.; UTM Zone 16, 588195 easting and 4251754 northing, NAD 83:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.

Bt1—9 to 16 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; common faint brown (7.5YR 4/4) clay films on faces of peds; moderately acid; gradual wavy boundary.

Bt2—16 to 24 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; common distinct brown (7.5YR 5/4) clay films on faces of peds; strongly acid; gradual wavy boundary.

Btx1—24 to 30 inches; yellowish brown (10YR 5/6) silt loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; very firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; common medium distinct pale brown (10YR 6/3) clay depletions on faces of peds; 65 percent brittle; strongly acid; gradual wavy boundary.

2Btx2—30 to 53 inches; light yellowish brown (10YR 6/4) silt loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; very firm; common distinct light brownish gray (10YR 6/2) clay films on faces of peds and in pores; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common distinct pale brown (10YR 6/3) clay depletions on faces of peds; 68 percent brittle; strongly acid; gradual wavy boundary.

2Btx3—53 to 66 inches; strong brown (7.5YR 5/6) silty clay loam; moderate coarse prismatic structure parting to moderate medium angular blocky; very firm; many distinct brown (7.5YR 4/4) clay films on faces of peds; common distinct very pale brown (10YR 7/4) and common prominent light gray (10YR 7/1) clay depletions on faces of peds; 62 percent brittle; strongly acid; gradual wavy boundary.

3Btb—66 to 80 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; many distinct brown (7.5YR 4/4) and common prominent red (2.5YR 4/6) clay films on faces of peds; common fine prominent gray (7.5YR 6/1) iron depletions in the matrix; common distinct very pale brown (10YR 7/4) clay depletions on faces of peds; strongly acid.

Range in Characteristics

Thickness of the loess: 20 to 36 inches
Depth to a fragipan: 20 to 36 inches
Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6

Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or strongly acid; ranging to neutral in the upper part of horizon

Btx or 2Btx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 5 percent gravel
Other characteristics—some part of horizon has redoximorphic depletions

3Btb horizon:
Hue—7.5YR
Value—4 or 5
Chroma—6 to 8
Texture—clay loam or loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 10 percent gravel

The Gatton soils in Harrison County are considered taxadjuncts to the series because they have more silt and less sand in the particle-size control section than what is defined for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs.

Gilpin Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

Gilpin silt loam; on a steeply sloping, wooded east-facing backslope, 1,550 feet east and 400 feet south of the northwest corner of sec. 4, T. 2 S., R. 3 E.; Harrison County, Indiana; USGS Fredericksburg, Indiana topographic quadrangle; lat. 38 degrees 22 minutes 27.0 seconds N. and long. 86 degrees 11 minutes 31.1 seconds W.; UTM Zone 16, 570581 easting and 4247642 northing, NAD 83:

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.
A—1 to 3 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; 2 percent channers of sandstone; strongly acid; abrupt smooth boundary.
BE—3 to 7 inches; pale brown (10YR 6/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; 10 percent channers of sandstone; strongly acid; abrupt wavy boundary.
Bt1—7 to 14 inches; strong brown (7.5YR 5/6) channery silt loam; weak fine and medium subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; 25 percent channers of sandstone; very strongly acid; gradual wavy boundary.
Bt2—14 to 30 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; 10 percent channers of sandstone and 4 percent parachanners of shale; very strongly acid; clear wavy boundary.
C—30 to 36 inches; yellowish brown (10YR 5/4) channery loam; massive; friable; 25 percent channers of sandstone and 10 percent parachanners of shale; very strongly acid; clear wavy boundary.

R—36 to 38 inches; light olive brown (2.5Y 5/4) fractured, interbedded sandstone and shale; strongly acid.

Range in Characteristics

Thickness of the solum: 18 to 36 inches
Depth to bedrock (lithic contact): 20 to 40 inches
Reaction: Strongly acid to extremely acid throughout the profile in areas not limed; ranging to neutral in limed areas
Other characteristics: Some pedons have a BC horizon with colors and textures similar to those of the C horizon

O horizon (if it occurs):
Texture—slightly or partially decomposed organic materials

Ap horizon (if it occurs):
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture—silt loam or loam or the channery analogues of these textures
Rock fragment content—0 to 30 percent channers

A horizon:
Hue—10YR or 2.5Y
Value—2 to 4
Chroma—1 to 3
Texture—silt loam or loam or the channery analogues of these textures
Rock fragment content—0 to 30 percent channers

E, BE, or BA horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 5
Texture—silt loam or loam or the channery analogues of these textures
Rock fragment content—0 to 30 percent channers

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—4 to 8
Texture—silt loam, loam, clay loam, or silty clay loam or the channery or very channery analogues of these textures
Rock fragment content—5 to 40 percent channers; the rock fragment content is less than 35 percent, by volume, in the upper 20 inches of the argillic horizon

C horizon:
Hue—7.5YR to 2.5Y
Value—3 to 5
Chroma—2 to 6
Texture—silt loam, loam, or silty clay loam or the channery to extremely channery or parachannery analogues of these textures
Rock fragment content—25 to 90 percent channers

Gilwood Series

Taxonomic classification: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Gilwood silt loam; on a convex 22 percent slope in a forested area, 600 feet south and 130 feet east of the center of sec. 26, T. 7 N., R. 2 E.; Jackson County, Indiana; USGS Elkinsville, Indiana topographic quadrangle; lat. 39 degrees 00 minutes 39.0 seconds N. and long. 86 degrees 16 minutes 16.2 seconds W.; UTM Zone 16, 563101 easting and 4318232 northing, NAD 83:

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.

A—1 to 6 inches; brown (10YR 4/3) silt loam, light yellowish brown (10YR 6/4) dry; weak medium granular structure; friable; many fine and medium roots; 10 percent channers; slightly acid; clear wavy boundary.

BE—6 to 11 inches; yellowish brown (10YR 5/4) channery silt loam; weak fine subangular blocky structure; friable; many medium roots; 15 percent channers; strongly acid; clear wavy boundary.

Bt—11 to 22 inches; yellowish brown (10YR 5/6) channery silt loam; moderate fine and medium subangular blocky structure; friable; common fine and medium roots; many distinct strong brown (7.5YR 5/6) clay films on faces of peds; 20 percent channers; very strongly acid; gradual wavy boundary.

CB—22 to 32 inches; light yellowish brown (2.5Y 6/4) extremely channery silt loam; weak fine subangular blocky structure; friable; 65 percent channers; very strongly acid; clear wavy boundary.

R—32 to 60 inches; fractured, very strongly cemented siltstone bedrock.

Range in Characteristics

Depth to the base of the argillic horizon: 15 to 32 inches
Depth to bedrock (lithic contact): 20 to 40 inches

O horizon (if it occurs):
Texture—slightly or partially decomposed organic materials

A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or channery silt loam
Reaction—very strongly acid to slightly acid
Rock fragment content—0 to 30 percent channers

E horizon (if it occurs):
Hue—10YR
Value—6
Chroma—4 to 6
Texture—silt loam or channery silt loam
Reaction—very strongly acid to slightly acid
Rock fragment content—0 to 30 percent channers

BE horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or channery silt loam
Reaction—very strongly acid or strongly acid
Rock fragment content—5 to 30 percent channers

Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6

Chroma—4 to 6
Texture—channery silt loam
Reaction—extremely acid or very strongly acid
Rock fragment content—15 to 30 percent channers

CB or BC horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—very channery or extremely channery silt loam
Reaction—extremely acid or very strongly acid
Rock fragment content—35 to 65 percent channers

Gnawbone Series

Taxonomic classification: Fine-silty, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Gnawbone silt loam; on a west-facing, convex 22 percent slope in a forested area, 600 feet south and 450 feet west of the northeast corner of sec. 28, T. 2 N., R. 6 E.; Scott County, Indiana; USGS Henryville, Indiana topographic quadrangle; lat. 38 degrees 35 minutes 13.1 seconds N. and long. 85 degrees 51 minutes 01 second W.; UTM Zone 16, 600136 easting and 4271573 northing, NAD 83:

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.

A—1 to 7 inches; light yellowish brown (10YR 6/4) silt loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; many fine to medium and few coarse roots; 3 percent gravel (ironstone); extremely acid; clear wavy boundary.

Bt1—7 to 12 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; many medium, common fine and very fine, and few coarse roots between peds; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; 3 percent gravel (ironstone); 10 percent parachanners; extremely acid; clear wavy boundary.

Bt2—12 to 17 inches; dark yellowish brown (10YR 4/6) parachannery silty clay loam; moderate medium subangular blocky structure; friable; common very fine to medium and few coarse roots between peds; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 10 percent gravel (ironstone); 15 percent parachanners; very strongly acid; clear wavy boundary.

Bt3—17 to 27 inches; dark yellowish brown (10YR 4/6) parachannery silty clay loam; moderate medium subangular blocky structure; friable; common fine and medium and few coarse roots between peds; many distinct strong brown (7.5YR 5/6) clay films on faces of peds; 3 percent gravel (ironstone); 20 percent parachanners; very strongly acid; clear wavy boundary.

Bt4—27 to 35 inches; yellowish brown (10YR 5/4) very parachannery silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots between peds; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; 3 percent gravel (ironstone); 35 percent parachanners; very strongly acid; gradual wavy boundary.

CB—35 to 39 inches; yellowish brown (10YR 5/4) extremely parachannery silt loam; weak fine subangular blocky structure; friable; 3 percent gravel (ironstone); 60 percent parachanners; very strongly acid; gradual wavy boundary.

Cr—39 to 60 inches; light olive brown (2.5Y 5/4) fractured, moderately cemented siltstone bedrock.

Range in Characteristics

Depth to the base of the argillic horizon: 18 to 36 inches
Depth to bedrock (paralithic contact): 20 to 40 inches

O horizon (if it occurs):
Texture—slightly or partially decomposed organic materials

A or Ap horizon (if it occurs):
Hue—10YR
Value—3 to 6
Chroma—2 to 4
Texture—silt loam
Reaction—extremely acid or very strongly acid; ranging to neutral in limed areas
Rock fragment content—1 to 5 percent gravel (ironstone)

Bt or BE horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—silt loam or silty clay loam or their parachannery or very parachannery analogues
Reaction—extremely acid or very strongly acid
Pararock fragment content—0 to 35 percent parachanners
Rock fragment content—1 to 12 percent gravel and cobbles (ironstone)

CB or BC horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6
Chroma—4 to 8
Texture—parachannery to extremely parachannery analogues of silt loam or silty clay loam
Reaction—extremely acid or very strongly acid
Pararock fragment content—30 to 70 percent parachanners
Rock fragment content—1 to 12 percent gravel and cobbles (ironstone)

Cr horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6

Haggatt Series

Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs (fig. 16)

Typical Pedon

Haggatt silt loam; on a 16 percent slope in a pasture field, 400 feet north and 1,500 feet east of the southwest corner of sec. 11, T. 1 S., R. 4 E.; Washington County, Indiana; USGS Palmyra, Indiana topographic quadrangle; lat. 38 degrees 26 minutes 03.1 seconds N. and long. 86 degrees 02 minutes 43.9 seconds W.; UTM Zone 16, 583304 easting and 4254426 northing, NAD 83:

Ap—0 to 5 inches; 90 percent brown (10YR 4/3) and 10 percent strong brown (7.5YR 5/6) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.

Bt1—5 to 16 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium

Figure 16.—Profile of Haggatt silt loam in an area of Knobcreek-Haggatt-Caneyville silt loams, karst, rolling, eroded. This soil developed from a thin cap of silty loess and the clayey red residuum from limestone at a depth of about 4 feet. Measurements are in feet.

subangular blocky structure; firm; many fine roots; many fine pores; many distinct brown (7.5YR 4/4) clay films on faces of peds; 12 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt2—16 to 25 inches; red (2.5YR 4/6) clay; moderate medium angular blocky structure; firm; common fine roots; common fine pores; many distinct reddish brown (2.5YR 4/4) clay films on faces of peds; 3 percent chert gravel; very strongly acid; clear wavy boundary.

2Bt3—25 to 36 inches; red (2.5YR 4/6) clay; moderate medium angular blocky structure; very firm; few fine roots; few fine pores; many distinct reddish brown (2.5YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

2Bt4—36 to 44 inches; strong brown (7.5YR 4/6) clay; strong coarse angular blocky structure; very firm; many distinct brown (7.5YR 4/4) clay films on faces of peds;

common fine irregular very dark gray (10YR 3/1) iron-manganese concretions; neutral; clear wavy boundary.

2R—44 to 60 inches; light gray (10YR 7/1) fractured, indurated limestone bedrock.

Range in Characteristics

Thickness of the loess: 0 to 20 inches
Depth to the base of the argillic horizon: 40 to 60 inches
Depth to bedrock (lithic contact): 40 to 60 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral
Rock fragment content—0 to 10 percent chert gravel

A horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 10 percent chert gravel

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon in limed areas
Rock fragment content—0 to 14 percent chert gravel

2Bt horizon:
Hue—2.5YR, 5YR, or 7.5YR; some part of horizon has hue of 5YR or redder
Value—4 or 5
Chroma—4 to 8
Texture—commonly silty clay or clay; less commonly their gravelly analogues
Reaction—very strongly acid or strongly acid; ranging to neutral in the lower part of horizon
Rock fragment content—0 to 20 percent chert gravel and 0 to 5 percent cobbles and stones

Hatfield Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs

Typical Pedon

Hatfield silt loam; on a 1 percent slope in a pasture field, 800 feet north and 800 feet east of the southwest corner of sec. 20, T. 6 S., R. 3 W.; Perry County, Indiana; USGS Tell City, Indiana topographic quadrangle; lat. 37 degrees 58 minutes 23.1 seconds N. and long. 86 degrees 46 minutes 10.0 seconds W.; UTM Zone 16, 520249 easting and 4202856 northing, NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine subangular blocky structure parting to moderate fine granular; friable; many fine and medium roots; 3 percent rounded quartzite and subrounded sandstone fine gravel; neutral; abrupt smooth boundary.

Bt—7 to 14 inches; light yellowish brown (10YR 6/4) silt loam; moderate fine subangular blocky structure; friable; many distinct light gray (10YR 7/1) clay films on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; many fine irregular black (10YR 2/1) iron-manganese concretions; common medium distinct light gray (10YR 7/2) iron depletions in the matrix; 5 percent rounded quartzite and subrounded sandstone fine gravel; moderately acid; clear smooth boundary.

Btg1—14 to 20 inches; light gray (10YR 7/2) silt loam; moderate fine subangular blocky structure; friable; many faint light gray (10YR 7/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine irregular black (10YR 2/1) iron-manganese concretions; common medium faint light gray (10YR 7/2) iron depletions in the matrix; 3 percent rounded quartzite fine gravel; very strongly acid; gradual smooth boundary.

Btg2—20 to 27 inches; light gray (10YR 7/2) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many faint light gray (10YR 7/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine irregular black (10YR 2/1) iron-manganese concretions; 3 percent rounded quartzite fine gravel; very strongly acid; gradual smooth boundary.

Btg3—27 to 36 inches; 85 percent light brownish gray (10YR 6/2) and 15 percent dark yellowish brown (10YR 4/6) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many faint light gray (10YR 7/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine irregular black (10YR 2/1) iron-manganese concretions; 1 percent rounded quartzite gravel; very strongly acid; gradual wavy boundary.

Btg/Btx—36 to 44 inches; 60 percent light brownish gray (10YR 6/2) silty clay loam (Btg part); moderate medium subangular blocky structure; firm; many faint light gray (10YR 7/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many fine irregular black (10YR 2/1) iron-manganese concretions; 40 percent dark yellowish brown (10YR 4/6) silty clay loam (Btx part), weak medium prismatic structure parting to moderate medium subangular blocky, very firm, few distinct light gray (10YR 7/1) clay films on vertical faces of peds; 45 percent brittle; strongly acid; gradual wavy boundary.

Btx1—44 to 55 inches; dark yellowish brown (10YR 4/6) silty clay loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; very firm; few distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; many fine irregular black (10YR 2/1) iron-manganese concretions; common medium prominent light brownish gray (10YR 6/2) clay depletions in the matrix; 65 percent brittle; strongly acid; gradual smooth boundary.

Btx2—55 to 78 inches; dark yellowish brown (10YR 4/6) silty clay loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; very firm; few distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; many fine irregular black (10YR 2/1) iron-manganese concretions; common medium prominent light brownish gray (10YR 6/2) clay depletions in the matrix; 65 percent brittle; moderately acid; gradual smooth boundary.

BCt—78 to 83 inches; dark yellowish brown (10YR 4/4) silt loam; moderate very thick platy structure parting to moderate fine subangular blocky; firm; very few distinct yellowish brown (10YR 5/4) clay films on faces of peds; common irregular black (10YR 2/1) iron-manganese concretions; neutral.

Range in Characteristics

Depth to a layer with fragic soil properties: 30 to 45 inches
Depth to base of the argillic horizon: 60 to more than 80 inches

Ap or A horizon (if it occurs):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam or silty clay loam
Reaction—very strongly acid to moderately acid; ranging to neutral in limed areas
Rock fragment content—0 to 5 percent tgravel

Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid to moderately acid; the upper part of horizon ranges to slightly acid in limed areas
Rock fragment content—0 to 5 percent gravel

Btg horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 to 2
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 5 percent gravel

Btg/Btx or Btx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—commonly silt loam or silty clay loam; less commonly loam
Reaction—very strongly acid to moderately acid in the upper part of horizon; ranging to slightly acid in the lower part
Rock fragment content—0 to 5 percent gravel

BC or BCt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—horizon is commonly silt loam or silty clay loam or is less commonly loam, clay loam, or stratified in these textures
Reaction—strongly acid to slightly alkaline
Rock fragment content—0 to 5 percent gravel

Haymond Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Haymond silt loam; in a nearly level area in a cultivated field, 1,800 feet east and 300 feet north of the southwest corner of sec. 2, T. 1 S., R. 11 W.; Knox County, Indiana; USGS Patoka, Indiana topographic quadrangle; lat. 38 degrees 27 minutes 04.1 seconds N. and long. 87 degrees 36 minutes 19.1 seconds W.; UTM Zone 16, 447182 easting and 4256048 northing, NAD 83:

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.

Bw1—10 to 25 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common fine roots; common medium distinct brown (10YR 4/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bw2—25 to 44 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; few medium distinct dark yellowish brown (10YR 4/4) organic coatings on faces of peds; neutral; clear smooth boundary.

C—44 to 60 inches; yellowish brown (10YR 5/4) fine sandy loam; massive with weak bedding planes; friable; slightly alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 60 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—moderately acid to neutral

C horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—horizon is silt loam, loam, fine sandy loam, or sandy loam or is stratified with these textures
Reaction—slightly acid to slightly alkaline
Rock fragment content—0 to 5 percent gravel

Huntington Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fluventic Hapludolls

Typical Pedon

Huntington silt loam; in a nearly level area in a cultivated field; 100 feet south and 900 feet west of the northeast corner of sec. 28, T. 3 S., R. 6 E.; Floyd County, Indiana; USGS Louisville West, KY-IN topographic quadrangle; lat. 38 degrees 13 minutes 37.0

seconds N. and long. 85 degrees 51 minutes 06.5 seconds W.; UTM Zone 16, 600498 easting and 4231619 northing, NAD 83:

Ap—0 to 12 inches; dark brown (10YR 3/3) silt loam, rubbed, brown (10YR 5/3) dry; moderate fine granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Bw1—12 to 36 inches; brown (10YR 4/4) silt loam; weak fine prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many medium distinct (10YR 3/3) organic coatings on faces of peds; neutral; clear wavy boundary.

Bw2—36 to 42 inches; brown (10YR 4/3) silt loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; few fine roots; common medium distinct (10YR 3/3) organic coatings on faces of peds; neutral; clear wavy boundary.

BC—42 to 80 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; neutral.

Range in Characteristics

Thickness of the mollic epipedon: Commonly 10 to 14 inches; ranging to 24 inches
Depth to base of cambic horizon: 60 to more than 80 inches

A or Ap horizon:
Hue—10YR
Value—2 or 3
Chroma—2 or 3
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam or silty clay loam
Reaction—moderately acid to neutral

BC horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam, silty clay loam, sandy loam, or loam
Reaction—moderately acid to slightly alkaline

Johnsburg Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudults

Typical Pedon

Johnsburg silt loam; on a nearly level slope in a cultivated field, 780 feet north and 780 feet west of the center of sec. 36, T. 3 S., R. 1 E.; Crawford County, Indiana; USGS Leavenworth, Indiana topographic quadrangle; lat. 38 degrees 12 minutes 57.7 seconds N. and long. 86 degrees 21 minutes 40.7 seconds W.; UTM Zone 16, 555910 easting and 4229978 northing, NAD 83:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; neutral; abrupt smooth boundary.

EB—10 to 14 inches; light yellowish brown (2.5Y 6/4) silt loam; weak very thick platy structure parting to weak medium subangular blocky; friable; common fine prominent gray (10YR 6/1) iron depletions in the matrix; very strongly acid; clear smooth boundary.

Bt1—14 to 20 inches; pale brown (10YR 6/3) silt loam; moderate medium subangular blocky structure; friable; few distinct light brownish gray (10YR 6/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron and gray (10YR 6/1) iron depletions in the matrix; many distinct light gray (10YR 7/2) clay depletions on faces of peds; very strongly acid; clear smooth boundary.

Bt2—20 to 24 inches; light yellowish brown (10YR 6/4) silt loam; moderate medium and fine prismatic structure parting to moderate medium and coarse subangular blocky; friable; few faint light brownish gray (10YR 6/2) clay films on faces of peds and in pores; many medium and coarse distinct light gray (10YR 7/2) iron depletions in the matrix; common distinct light gray (10YR 7/2) clay depletions on faces of peds and in pores; very strongly acid; clear smooth boundary.

Btg—24 to 36 inches; gray (10YR 6/1) silt loam; moderate medium prismatic structure; firm; common faint gray (10YR 5/1) clay films on faces of peds and in pores; many medium prominent yellowish brown (10YR 5/8) and many medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; common irregular black (10YR 2/1) iron-manganese concretions; 30 percent brittle; very strongly acid; gradual smooth boundary.

Btx1—36 to 50 inches; yellowish brown (10YR 5/4) silt loam; moderate very coarse prismatic structure; very firm; common prominent gray (10YR 5/1) clay films on faces of peds; common fine distinct gray (10YR 6/1) iron depletions in the matrix; many medium prominent gray (10YR 6/1) clay depletions on faces of peds; 60 percent brittle; very strongly acid; gradual smooth boundary.

2Btx2—50 to 72 inches; brown (10YR 5/3) silt loam; moderate coarse and very coarse prismatic structure parting to weak thick platy; very firm; common prominent gray (10YR 5/1) clay films on faces of peds; common medium prominent gray (10YR 6/1) clay depletions on faces of peds; 65 percent brittle; strongly acid; gradual smooth boundary.

2CB—72 to 90 inches; brown (10YR 5/3) silt loam; massive; firm; few medium distinct gray (10YR 6/1) iron depletions in the matrix; strongly acid; gradual smooth boundary.

2Cr—90 inches; moderately cemented siltstone.

Range in Characteristics

Depth to base of argillic horizon: 50 to 80 inches
Depth to bedrock (paralithic contact): 60 to 100 inches

A or Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid in non-limed areas; ranging to neutral in limed areas

EB and E horizons (if they occur):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—silt loam

Reaction—very strongly acid or strongly acid in non-limed areas; ranging to neutral in limed areas

BE, Bt, or Btg horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid

Btx or 2Btx horizon:
Hue—10YR or 7.5YR
Value—5 or 6
Chroma—1 to 8
Texture—commonly silt loam or silty clay loam; less commonly loam, clay loam, or sandy loam
Reaction—extremely acid to strongly acid
Rock fragment content—0 to 5 percent channers

2BC or 2CB horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 6
Texture—commonly silt loam; less commonly loam, channery clay loam, or sandy loam
Reaction—extremely acid to strongly acid
Pararock fragment content—0 to 15 percent parachanners
Rock fragment content—0 to 35 percent channers

2Cr horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 to 6

The Johnsburg soils in Harrison County are considered taxadjuncts to the series because they do not have a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more and have a base saturation of more than 35 percent at a depth of 50 inches below the top of the argillic horizon. These differences, however, do not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Fragiaquic Hapludalfs.

Kintner Series

Taxonomic classification: Loamy-skeletal, mixed, active, mesic Oxyaquic Eutrudepts (fig. 17)

Typical Pedon

Kintner loam; on a 1 percent slope in a pasture, 1,800 feet west and 2,000 feet north of the southeast corner of sec. 20, T. 5 S., R. 5 E.; Harrison County, Indiana; USGS Kosmosdale, KY-IN topographic quadrangle; lat. 38 degrees 03 minutes 31.2 seconds N. and long. 85 degrees 58 minutes 53.2 seconds W.; UTM Zone 16, 589355 easting and 4212814 northing, NAD 83:

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; friable; many very fine and fine roots; many fine irregular pores; slightly effervescent; slightly alkaline; clear smooth boundary.
Bw1—5 to 9 inches; brown (10YR 4/3) loam; moderate fine subangular blocky

Figure 17.—Profile of Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration. The soil has a high content of gravelly material over indurated limestone bedrock at a depth of about 3.5 feet. Measurements are in feet.

structure; friable; few fine roots; few fine irregular pores; neutral; clear wavy boundary.

Bw2—9 to 16 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots throughout; few fine prominent dark yellowish brown (10YR 4/4) organic stains on faces of peds; 2 percent gravel (chert); neutral; clear smooth boundary.

Bw3—16 to 23 inches; 95 percent dark yellowish brown (10YR 4/4) and 5 percent yellowish brown (10YR 5/6) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots throughout; few fine faint brown (10YR 4/3) organic stains on faces of peds; 3 percent gravel (chert); slightly effervescent; slightly alkaline; abrupt wavy boundary.

2Bw4—23 to 48 inches; yellowish brown (10YR 5/6) extremely gravelly sandy loam; weak medium subangular blocky structure; very friable; few very fine roots throughout; 61 percent gravel (chert) and 5 percent cobbles (chert); slightly effervescent; slightly alkaline; abrupt wavy boundary.

2R—48 to 60 inches; light gray (10YR 7/1) fractured, indurated limestone bedrock.

Range in Characteristics

Depth of medium-textured alluvial material: 10 to 30 inches

Depth to base of cambic horizon: 12 to 59 inches
Depth to bedrock (lithic contact): 40 to 60 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam or silt loam
Reaction—moderately acid to slightly alkaline
Rock fragment content—0 to 10 percent gravel and 0 to 2 percent cobbles

A horizon (less than 6 inches thick):
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—loam or silt loam
Reaction—moderately acid to slightly alkaline
Rock fragment content—0 to 10 percent gravel and 0 to 2 percent cobbles

BA and Bw horizons:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—loam or silt loam
Reaction—moderately acid to slightly alkaline
Rock fragment content—0 to 14 percent gravel and 0 to 3 percent cobbles

2Bw or 2BC horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—commonly the very gravelly or extremely gravelly analogues of loam or sandy loam; less commonly the very gravelly or extremely gravelly analogues of clay loam or sandy clay loam
Reaction—moderately acid to slightly alkaline
Rock fragment content—35 to 75 percent gravel, 0 to 10 percent cobbles, and 0 to 5 percent stones

Knobcreek Series

Taxonomic classification: Fine-silty over clayey, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Knobcreek silt loam; on a 13 percent slope in a pasture, 2,050 feet west and 100 feet south of the northeast corner of sec. 36, T. 1 S, R. 4 E.; Floyd County, Indiana; USGS Palmyra, Indiana topographic quadrangle; lat. 38 degrees 23 minutes 19.2 seconds N. and long. 86 degrees 01 minute 16.9 seconds W.; UTM Zone 16, 585467 easting and 4249393 northing, NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure parting to moderate fine and medium granular; very friable; strongly acid; abrupt smooth boundary.
Bt1—7 to 11 inches; strong brown (7.5YR 5/6) silty clay loam; moderate very fine and fine subangular blocky structure; friable; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; 1 percent subangular gravel (chert); strongly acid; clear smooth boundary.

Bt2—11 to 16 inches; strong brown (7.5YR 5/6) silty clay loam; moderate very fine and fine subangular blocky structure; friable; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; 1 percent subangular gravel (chert); very strongly acid; clear wavy boundary.

2Bt3—16 to 31 inches; 60 percent yellowish red (5YR 4/6) and 40 percent strong brown (7.5YR 5/6) clay; moderate very fine and fine angular blocky structure; firm; many prominent red (2.5YR 4/6) and common prominent dark yellowish brown (10YR 4/6) clay films on faces of peds; 1 percent subangular gravel (chert); very strongly acid; gradual wavy boundary.

2Bt4—31 to 43 inches; strong brown (7.5YR 5/6) clay; moderate very fine and fine angular blocky structure; firm; common prominent red (2.5YR 4/6), few distinct strong brown (7.5YR 4/6), and few distinct pale brown (10YR 6/3) clay films on faces of peds; 1 percent subangular gravel (chert); very strongly acid; clear wavy boundary.

2Bt5—43 to 51 inches; strong brown (7.5YR 5/6) clay; moderate very fine and fine angular blocky structure; firm; common prominent red (2.5YR 4/6), many faint strong brown (7.5YR 5/6), and very few prominent light gray (10YR 7/2) clay films on faces of peds; 1 percent subangular gravel (chert); very strongly acid; clear wavy boundary.

2Bt6—51 to 63 inches; yellowish brown (10YR 5/6) clay; moderate very fine and fine angular blocky structure; firm; many prominent dark yellowish brown (10YR 4/6), few prominent red (2.5YR 4/6), and few prominent light gray (10YR 7/2) clay films on faces of peds; 4 percent subangular gravel (chert) and 1 percent subrounded cobbles (chert); moderately acid; clear wavy boundary.

2Bt7—63 to 89 inches; yellowish brown (10YR 5/6) clay; moderate very fine and fine angular blocky structure; firm; common prominent dark yellowish brown (10YR 4/6) and few prominent light gray (10YR 7/2) clay films on faces of peds; few prominent black (10YR 2/1) manganese coatings on faces of peds; 2 percent subangular gravel (chert); neutral.

Range in Characteristics

Thickness of the loess: 8 to 20 inches

Depth to the base of the argillic horizon and bedrock (lithic contact): 60 to 120 inches or more

Ap horizon:

Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral
Rock fragment content—0 to 14 percent gravel (chert)

A horizon (if it occurs):

Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 14 percent gravel (chert)
Thickness—2 to 4 inches

E or BE horizon (if it occurs):

Hue—10YR
Value—5 or 6
Chroma—3 or 4

Texture—silt loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon in limed areas
Rock fragment content—0 to 14 percent gravel (chert)

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon in limed areas
Rock fragment content—0 to 14 percent gravel (chert)

2Bt horizon:
Hue—2.5YR to 7.5YR; ranging to 10YR in the lower part of horizon
Value—4 or 5
Chroma—6 to 8
Texture—commonly silty clay or clay or their gravelly analogues
Reaction—very strongly acid or strongly acid in the upper part of horizon; ranging to neutral in the lower part
Rock fragment content—0 to 20 percent gravel (chert) and 0 to 10 percent cobbles, stones, and boulders

Kurtz Series

Taxonomic classification: Fine-silty, mixed, semiactive, mesic Ultic Hapludalfs

Typical Pedon

Kurtz silt loam; on a convex 37 percent slope in a forested area, 500 feet east and 2,000 feet south of the northwest corner of sec. 19, T. 5 N., R. 5 E.; Jackson County, Indiana; USGS Vallonia, Indiana topographic quadrangle; lat. 38 degrees 51 minutes 42.1 seconds N. and long. 86 degrees 01 minute 02.0 seconds W.; UTM Zone 16, 585269 easting and 4301890 northing, NAD 83:

Oi—0 to 1 inch; roots and partially decomposed leaves.
A—1 to 3 inches; grayish brown (10YR 5/2) silt loam, pale brown (10YR 6/3) dry; moderate medium and fine granular structure; friable; many fine and medium roots; 5 percent gravel (ironstone); extremely acid; abrupt smooth boundary.
E—3 to 7 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate medium and fine granular structure; friable; many fine and medium roots; 4 percent gravel (ironstone); extremely acid; clear smooth boundary.
BE—7 to 13 inches; brownish yellow (10YR 6/6) silt loam; moderate medium and fine subangular blocky structure; friable; common medium and coarse roots; 2 percent gravel (ironstone); very strongly acid; clear wavy boundary.
Bt1—13 to 21 inches; yellowish brown (10YR 5/6) silt loam; common fine faint strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; common medium and coarse roots; many distinct light yellowish brown (10YR 6/4) silt coats over clay films on faces of peds; 2 percent gravel (ironstone); very strongly acid; clear wavy boundary.
Bt2—21 to 37 inches; strong brown (7.5YR 5/6) and light yellowish brown (2.5Y 6/4) silty clay loam; common fine prominent greenish gray (5GY 6/1) and distinct yellowish red (5YR 4/6) mottles; moderate fine and medium subangular blocky structure; firm; common medium and coarse roots; many prominent light yellowish

brown (2.5Y 6/4) clay films on faces of peds; 2 percent gravel and cobbles (ironstone); 10 percent parachanners; very strongly acid; gradual wavy boundary.

CB—37 to 47 inches; light olive brown (2.5Y 5/4) extremely parachannery silty clay loam; many medium prominent gray (5Y 6/1) and greenish gray (5GY 6/1) and common fine distinct strong brown (7.5YR 5/6) mottles; weak fine and medium subangular blocky structure between the parachanners; firm; few medium and coarse roots; 5 percent gravel and cobbles (ironstone); 60 percent weakly and moderately cemented parachanners; very strongly acid; gradual wavy boundary.

Cr—47 to 60 inches; olive (5Y 4/3) interbedded moderately cemented siltstone and shale bedrock; light olive gray (5Y 6/2) coatings between fragments; 5 percent gravel and cobbles (ironstone); strongly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 32 to 48 inches
Depth to bedrock (paralithic contact): 40 to 60 inches
Pararock fragments: Weakly or moderately cemented siltstone or shale
Rock fragments: Indurated ironstone gravel and cobbles

O horizon (if it occurs):
Texture—slightly or partially decomposed organic materials

A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam
Reaction—extremely acid or very strongly acid
Rock fragment content—1 to 5 percent gravel

E horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—silt loam
Reaction—extremely acid or very strongly acid
Rock fragment content—1 to 5 percent gravel

BE or Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or silty clay loam or their parachannery analogues
Reaction—extremely acid or very strongly acid
Pararock fragment content—0 to 30 percent parachanners
Rock fragment content—1 to 5 percent gravel and cobbles

CB or BC horizon:
Hue—10YR, 2.5Y, or 5Y
Value—5 or 6
Chroma—3 to 6
Texture—very parachannery or extremely parachannery analogues of silt loam or silty clay loam
Reaction—very strongly acid or strongly acid
Pararock fragment content—35 to 70 percent parachanners
Rock fragment content—1 to 5 percent gravel and cobbles

Cr horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—3 or 4

Laconia Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Endoaqualfs

Typical Pedon

Laconia silt loam; in a nearly level cultivated field, 50 feet east and 400 feet north of the center of sec. 26, T. 3 N., R. 1 E.; Orange County, Indiana; USGS Campbellsburg, Indiana topographic quadrangle; lat. 38 degrees 40 minutes 2.3 seconds N. and long. 86 degrees 22 minutes 23.7 seconds W.; UTM Zone 16, 554524 easting and 4280046 northing, NAD 83:

Ap—0 to 7 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium platy structure parting to moderate medium granular; friable; common very fine and fine roots between peds; few fine prominent strong brown (7.5YR 5/6) masses of oxidized iron in the matrix; slightly acid; abrupt smooth boundary.

Btg1—7 to 13 inches; gray (10YR 5/1) silt loam; moderate medium subangular blocky structure; friable; few very fine roots between peds; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; neutral; gradual smooth boundary.

Btg2—13 to 25 inches; gray (10YR 5/1) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent strong brown (7.5YR 5/8) masses of oxidized iron in the matrix; slightly acid; clear smooth boundary.

2Btgb1—25 to 38 inches; gray (10YR 5/1) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; very strongly acid; gradual wavy boundary.

2Btgb2—38 to 59 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many prominent dark gray (N 4/0) clay films on faces of peds; many medium prominent strong brown (7.5YR 5/6) and common medium distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; strongly acid; clear smooth boundary.

2Btgb3—59 to 74 inches; dark gray (N 4/0) clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) and light olive brown (2.5Y 5/4) masses of oxidized iron in the matrix; slightly alkaline; clear wavy boundary.

2Btb—74 to 80 inches; brownish yellow (10YR 6/8) silty clay; moderate medium angular blocky structure; firm; common prominent gray (10YR 6/1) clay films in root channels and in pores; many coarse prominent light gray (10YR 7/1) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the silty slope alluvium: 20 to 40 inches
Depth to the base of the argillic horizon: 60 to more than 80 inches
Particle-size control section: Average of 24 to 34 percent clay and less than 15 percent sand

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid or strongly acid in non-limed areas; ranging to neutral in limed areas

Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid in non-limed areas; ranging to neutral in limed areas
Other characteristics—redoximorphic concentrations

2Btgb horizon:
Hue—10YR, 2.5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—commonly silty clay or clay; less commonly silty clay loam
Reaction—very strongly acid or strongly acid in the upper part of horizon; ranging to slightly alkaline in the lower part

2Btb horizon:
Hue—commonly 7.5YR or 10YR; less commonly 5YR
Value—4 to 6
Chroma—4 to 8
Texture—commonly silty clay or clay; less commonly silty clay loam
Reaction—commonly slightly acid to slightly alkaline; less commonly ranging to strongly acid
Rock fragment content—0 to 5 percent chert gravel

Lindside Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fluvaquentic Eutrudepts

Typical Pedon

Lindside silt loam; in a nearly level area in a cultivated field, 990 feet north and 924 feet west of the southeast corner of sec. 21, T. 3 S., R. 6 E.; Floyd County, Indiana; USGS Louisville West, KY-IN topographic quadrangle; lat. 38 degrees 13 minutes 54.7 seconds N. and long. 85 degrees 50 minutes 58.3 seconds W.; UTM Zone 16, 600691 easting and 4232169 northing, NAD 83:

Ap—0 to 12 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium granular structure; friable; neutral; clear smooth boundary.
Bw1—12 to 22 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; neutral; gradual smooth boundary.
Bw2—22 to 37 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
Bw3—37 to 42 inches; brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; friable; common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix and common medium faint dark grayish brown (10YR 4/2) depleted pore linings; moderately acid; clear smooth boundary.

Bw4—42 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; common distinct very dark gray (10YR 3/1) masses of oxidized iron and manganese on faces of peds; common medium distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly acid in the upper part and neutral in the lower part.

Range in Characteristics

Depth to base of cambic horizon: 60 to more than 80 inches
Rock fragment content: 0 to 5 percent within a depth of 40 inches and 0 to 15 percent below a depth of 40 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—moderately acid to neutral

Bw or BC horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6 above a depth of 20 inches and 1 to 4 below a depth of 20 inches
Texture—commonly silt loam or silty clay loam; less commonly strata of loam or sandy loam
Reaction—strongly acid to neutral, except in the rarely flooded areas (where reaction ranges to very strongly acid)

The Lindside soils in Harrison County in map unit LpoAQ are considered taxadjuncts to the series because they have a regular decrease in organic-carbon content between a depth of 10 and 50 inches. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Aquic Dystric Eutrudepts.

Markland Series

Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Markland silt loam; on a 46 percent slope in a forested area, 1,200 feet east and 1,650 feet south of the northwest corner of sec. 22, T. 5 S., R. 1 W.; Perry County, Indiana; USGS Derby, Indiana topographic quadrangle; lat. 38 degrees 04 minutes 08.1 seconds N. and long. 86 degrees 30 minutes 34.9 seconds W.; UTM Zone 16, 543007 easting and 4213578 northing, NAD 83:

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium subangular blocky structure; friable; many fine and medium roots; slightly acid; clear wavy boundary.

2Bt1—4 to 15 inches; yellowish brown (10YR 5/6) silty clay; strong medium angular blocky structure; firm; common fine and medium roots between peds; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; strongly acid; clear wavy boundary.

2Bt2—15 to 28 inches; yellowish brown (10YR 5/6) silty clay; strong medium angular blocky structure; firm; common fine and medium roots between peds; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; neutral; clear smooth boundary.

2Btk1—28 to 38 inches; yellowish brown (10YR 5/6) silty clay; strong fine subangular

blocky structure; firm; few fine roots between peds; common distinct brown (10YR 5/3) clay films on faces of peds; few fine carbonate nodules; strongly effervescent; moderately alkaline; clear wavy boundary.

2Btk2—38 to 48 inches; yellowish brown (10YR 5/6) silty clay loam; strong fine subangular blocky structure; firm; few fine roots between peds; common distinct brown (10YR 5/3) clay films on faces of peds; many fine and medium carbonate nodules; strongly effervescent; moderately alkaline; clear wavy boundary.

2Btk3—48 to 59 inches; yellowish brown (10YR 5/6) silty clay loam; strong fine subangular blocky structure; firm; few fine roots between peds; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; many fine and medium carbonate nodules; strongly effervescent; moderately alkaline; clear wavy boundary.

2BCtk—59 to 80 inches; 90 percent yellowish brown (10YR 5/6) silty clay loam and 10 percent yellowish brown (10YR 5/6) silty clay; weak fine subangular blocky structure; friable; few fine roots between peds; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; many fine carbonate nodules; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 3 to 18 inches
Depth to carbonates: Typically 20 to 40 inches; can be less than 20 inches in severely eroded areas
Depth to the base of the argillic horizon: 30 to 70 inches

A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Texture—silt loam or silty clay loam
Reaction—strongly acid to neutral

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam or silty clay loam
Reaction—strongly acid to neutral

Bt horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam
Reaction—very strongly acid to moderately acid

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silty clay
Reaction—very strongly acid to slightly alkaline

2Btk horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6

Texture—silty clay loam or silty clay
Reaction—slightly alkaline or moderately alkaline

2BCtk horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—commonly silty clay loam or silty clay; including strata of silt loam or silt
Reaction—slightly alkaline or moderately alkaline

McGary Series

Taxonomic classification: Fine, mixed, active, mesic Aeric Epiaqualfs

Typical Pedon

McGary silt loam; on a nearly level slope in a cultivated field, 2,050 feet east and 700 feet north of the southwest corner of sec. 24, T. 6 N., R. 7 W.; Greene County, Indiana; USGS Sandborn, Indiana topographic quadrangle; lat. 38 degrees 56 minutes 21.1 seconds N. and long. 87 degrees 08 minutes 30.0 seconds W.; UTM Zone 16, 487722 easting and 4310041 northing, NAD 83:

Ap—0 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; weak coarse subangular blocky structure parting to moderate fine and medium granular; friable; neutral; abrupt smooth boundary.

2Bt—11 to 15 inches; brown (10YR 5/3) silty clay; moderate medium subangular blocky structure; firm; many faint grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct gray (10YR 6/1) iron depletions in the matrix; moderately acid; clear smooth boundary.

2Btg1—15 to 22 inches; grayish brown (10YR 5/2) silty clay; weak fine and medium prismatic structure parting to moderate medium angular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; few fine black (10YR 2/1) iron-manganese concretions; neutral; clear smooth boundary.

2Btg2—22 to 27 inches; grayish brown (10YR 5/2) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses of oxidized iron in the matrix; slightly effervescent; slightly alkaline; gradual irregular boundary.

2Btg3—27 to 42 inches; gray (10YR 5/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common distinct gray (10YR 6/1) clay films on faces of peds; common fine distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; few fine and medium weakly cemented carbonate nodules; slightly effervescent; slightly alkaline; clear irregular boundary.

2BCtkg—42 to 50 inches; gray (10YR 6/1) silty clay; weak coarse angular blocky structure; firm; few faint gray (10YR 5/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium weakly cemented carbonate nodules; strongly effervescent; moderately alkaline; gradual wavy boundary.

2Cg—50 to 60 inches; gray (10YR 6/1) stratified silty clay loam and silty clay; massive; firm; common fine prominent yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common fine and medium weakly cemented carbonate nodules; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 0 to 20 inches
Depth to carbonates: 22 to 56 inches
Depth to the base of the argillic horizon: 24 to 50 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam
Reaction—moderately acid to neutral

A horizon (if it occurs):
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Thickness—1 to 3 inches

Bt, Btg, 2Bt, or 2Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay or silty clay loam
Reaction—very strongly acid to neutral in the upper part of horizon; neutral to slightly alkaline in the lower part

2BCtgk, 2BCg, or 2BC horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay or silty clay loam
Reaction—neutral to moderately alkaline

2C or 2Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified silty clay or silty clay loam; including thin strata of silt loam
Reaction—slightly alkaline or moderately alkaline

Millstone Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludults

Typical Pedon

Millstone loam; on a 1 percent slope in a cultivated field, 900 feet south and 760 feet west of the northeast corner of sec. 5, T. 8 S., R. 2 W.; Perry County, Indiana; USGS Cloverport, Indiana topographic quadrangle; lat. 37 degrees 50 minutes 59.1 seconds N. and long. 86 degrees 38 minutes 41.9 seconds W.; UTM Zone 16, 531234 easting and 4189207 northing, NAD 83:

Ap—0 to 12 inches; brown (10YR 4/3) loam, light yellowish brown (10YR 6/4) dry; moderate fine granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary.
Bt1—12 to 18 inches; yellowish brown (10YR 5/6) loam; moderate fine subangular blocky structure; friable; common fine roots between peds; many distinct strong

brown (7.5YR 4/6) clay films on faces of peds; 1 percent fine gravel; very strongly acid; clear wavy boundary.

Bt2—18 to 27 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; common fine roots between peds; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt3—27 to 43 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt4—43 to 52 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt5—52 to 59 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt6—59 to 65 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common prominent light yellowish brown (10YR 6/4) skeletans on faces of peds; very strongly acid; clear wavy boundary.

Bt7—65 to 74 inches; brown (7.5YR 4/4) very fine sandy loam; few fine distinct light yellowish brown (10YR 6/4) mottles; moderate fine subangular blocky structure; friable; common distinct brown (7.5YR 4/4) clay films on faces of peds; very fine sand fillings in vertical cracks; very strongly acid; clear wavy boundary.

Bt8—74 to 80 inches; brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable; few faint brown (7.5YR 4/4) clay films on faces of peds; few fine irregular black (10YR 2/1) iron-manganese concretions; common fine prominent light gray (10YR 7/2) iron depletions in the matrix; very strongly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 60 to more than 80 inches
Depth to the base of soil development: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam or silt loam
Reaction—very strongly acid to neutral
Rock fragment content—0 to 5 percent gravel

A horizon (if it occurs):
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—loam or silt loam
Reaction—very strongly acid to moderately acid
Rock fragment content—0 to 5 percent gravel
Thickness—2 to 5 inches

Bt horizon or BC horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—horizon is commonly loam and less commonly clay loam, fine sandy loam, or sandy loam above a depth of 40 inches; below a depth of 40 inches,

horizon is loam, fine sandy loam, or very fine sandy loam and includes gravelly analogues of loam and sandy loam

Reaction—very strongly acid to moderately acid

Rock fragment content—0 to 12 percent above a depth of 40 inches; ranging to 34 percent below a depth of 40 inches

Navilleton Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Navilleton silt loam; on a 7 percent slope in a pasture field, 2,100 feet west and 540 feet south of the northeast corner of sec. 36, T. 1 S., R. 4 E.; Floyd County, Indiana; USGS Palmyra, Indiana topographic quadrangle; lat. 38 degrees 23 minutes 16.1 seconds N. and long. 86 degrees 01 minute 17.9 seconds W.; UTM Zone 16, 585444 easting and 4249300 northing, NAD 83:

Ap1—0 to 5 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure parting to moderate medium granular; very friable; strongly acid; clear smooth boundary.

Ap2—5 to 8 inches; 70 percent dark yellowish brown (10YR 4/4) and 30 percent strong brown (7.5YR 5/6) silt loam; moderate fine and medium subangular blocky structure parting to weak fine and medium granular; very friable; common fine spherical black (10YR 2/1) iron-manganese concretions throughout; moderately acid; clear smooth boundary.

Bt1—8 to 12 inches; strong brown (7.5YR 5/6) silt loam; moderate fine subangular blocky structure; friable; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; few medium prominent dark yellowish brown (10YR 4/4) organic coatings on faces of peds and in pores; common fine spherical black (10YR 2/1) iron-manganese concretions throughout; moderately acid; clear smooth boundary.

Bt2—12 to 25 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; common fine spherical black (10YR 2/1) iron-manganese concretions throughout; moderately acid; clear smooth boundary.

Bt3—25 to 35 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate fine subangular blocky structure; friable; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; many distinct light yellowish brown (10YR 6/4) silt coats on faces of peds; common fine spherical black (10YR 2/1) iron-manganese concretions throughout; moderately acid; clear wavy boundary.

2Bt4—35 to 43 inches; strong brown (7.5YR 4/6) silty clay; moderate fine subangular blocky structure; friable; common prominent pale brown (10YR 6/3) and brown (7.5YR 4/4) clay films on faces of peds; common fine spherical black (10YR 2/1) iron-manganese concretions throughout; 3 percent subrounded chert gravel; strongly acid; clear wavy boundary.

2Bt5—43 to 54 inches; yellowish red (5YR 5/6) clay; moderate very fine and fine angular blocky structure; firm; many prominent yellowish red (5YR 4/6) and few prominent brown (10YR 5/3) clay films on faces of peds; common fine and medium spherical black (10YR 2/1) iron-manganese concretions throughout; 3 percent angular chert gravel; neutral; clear wavy boundary.

2Bt6—54 to 61 inches; yellowish red (5YR 4/6) clay; moderate very fine angular blocky structure; firm; many distinct yellowish red (5YR 4/6) clay films on faces of peds; common fine and medium spherical black (10YR 2/1) iron-manganese concretions throughout; 3 percent angular chert gravel; neutral; clear wavy boundary.

2Bt7—61 to 72 inches; strong brown (7.5YR 4/6) silty clay; moderate fine angular

blocky structure; firm; many prominent dark yellowish brown (10YR 4/4) and few prominent very dark grayish brown (10YR 3/2) and strong brown (7.5YR 5/6) clay films on faces of peds; 3 percent angular chert gravel and 3 percent limestone flagstones; slightly effervescent from a depth of 71 to 72 inches; slightly alkaline; abrupt wavy boundary.

R—72 to 80 inches; indurated limestone bedrock.

Range in Characteristics

Thickness of the loess: 20 to 40 inches
Depth to base of argillic horizon and bedrock (lithic contact): 60 to 120 inches or more

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (if it occurs):
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid or strongly acid
Thickness—2 to 4 inches

BE horizon (if it occurs):
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon in limed areas

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid; ranging to neutral in the upper part of horizon in limed areas

2Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—silty clay or clay
Reaction—very strongly acid or strongly acid in the upper part of horizon; ranging to slightly alkaline in the lower part
Rock fragment content—0 to 14 percent chert gravel and cobbles; including few flagstones, stones, or boulders

Newark Series

Taxonomic classification: Fine-silty, mixed, active, nonacid, mesic Fluventic Endoaquepts

Typical Pedon

Newark silt loam; in a nearly level area in a cultivated field, 1,000 feet south of the railroad and 400 feet west of Willett Road; Daviess County, Kentucky; USGS Owensboro West, Kentucky topographic quadrangle; lat. 37 degrees 48 minutes 24.4 seconds N. and long. 87 degrees 11 minutes 4.2 seconds W.; UTM Zone 16, 483758 easting and 4184394 northing, NAD 83:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

Bw—9 to 15 inches; brown (10YR 5/3) silt loam; weak fine granular structure; very friable; few fine roots; many fine and medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; few small flakes of mica; slightly acid; gradual smooth boundary.

Bg—15 to 32 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; very friable; many medium distinct brown (10YR 4/3) masses of oxidized iron in the matrix; few small flakes of mica; slightly acid; gradual smooth boundary.

Cg—32 to 52 inches; light brownish gray (2.5Y 6/2) silt loam; massive; very friable; common coarse distinct yellowish brown (10YR 5/4) and common medium faint brown (10YR 5/3) masses of oxidized iron in the matrix; few weakly cemented irregularly shaped black (N 2.5/0) and dark brown (7.5YR 3/3) iron-manganese nodules; common medium faint light gray (10YR 7/2) iron depletions in the matrix; few small flakes of mica; slightly acid; gradual smooth boundary.

C—52 to 60 inches; brown (10YR 4/3) silt loam that has thin strata of loam and silty clay loam; massive; very friable; few weakly cemented, irregularly shaped black (N 2.5/0) and dark brown (7.5YR 3/3) iron-manganese nodules; many medium and coarse distinct gray (10YR 6/1) iron depletions in the matrix; few small flakes of mica; slightly acid.

Range in Characteristics

Depth to base of cambic horizon: 40 to more than 80 inches

Ap horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral

Bg or BCg horizon:
Hue—10YR, 2.5Y, or neutral
Value—4 to 7
Chroma—0 to 2
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral

Cg horizon:
Hue—10YR, 2.5Y, or neutral

Value—4 to 7
Chroma—0 to 2
Texture—silt loam or silty clay loam; below a depth of 40 inches horizon includes thin strata of loam or fine sandy loam
Reaction—strongly acid to slightly alkaline

C horizon (if it occurs):
Hue—10YR, 2.5Y, or neutral
Value—4 to 7
Chroma—3 or 4
Texture—silt loam or silty clay loam; below a depth of 40 inches horizon includes thin strata of loam or fine sandy loam
Reaction—strongly acid to slightly alkaline

The Newark soils in Harrison County in map unit NbhAQ are considered taxadjuncts to the series because they have a regular decrease in organic-carbon content between a depth of 10 and 50 inches. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, nonacid, mesic Aeric Endoaquepts.

Nolin Series

Taxonomic classification: Fine-silty, mixed, active, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Nolin silt loam; in a hayfield, 0.4 mile southeast of Kentucky Highway 11 bridge at Sherburne, 650 feet east-northeast of Kentucky Highway 1325, about 375 feet southeast of the intersection of the Licking River and Flat Creek, 100 feet west of Flat Creek; Bath County, Kentucky; USGS Sherburne topographic quadrangle; lat. 38 degrees 16 minutes 41.9 seconds N. and long. 83 degrees 48 minutes 08.0 seconds W.; UTM Zone 17, 254882 easting and 4240412 northing, NAD 83:

Ap—0 to 12 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine roots; slightly acid; clear wavy boundary.
Bw1—12 to 25 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; common fine roots; few medium faint yellowish brown (10YR 5/4) soft irregular masses of weathered siltstone; few fine fragments of charcoal; neutral; gradual smooth boundary.
Bw2—25 to 35 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few fine roots; few or common medium and coarse faint yellowish brown (10YR 5/4) soft irregular masses of weathered siltstone; slightly acid; gradual smooth boundary.
Bw3—35 to 44 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; few fine and coarse roots; few medium faint yellowish brown (10YR 5/4) soft irregular masses of weathered siltstone; neutral; gradual wavy boundary.
Bw4—44 to 74 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; few fine and coarse roots; few fine faint yellowish brown (10YR 5/4) soft irregular masses of weathered siltstone; neutral; clear wavy boundary.
C—74 to 80 inches; brown (10YR 4/3) silt loam; friable and firm; few fine roots; few fine faint brown (10YR 5/3) silt coats in wormholes; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: More than 40 inches
Thickness of alluvial deposits: Ranging from 60 inches to many feet

Ap horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 or 3
Texture—loam, silt loam, or silty clay loam
Reaction—very strongly acid to neutral
Rock fragment content—0 to 3 percent

Bw horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral
Rock fragment content—0 to 3 percent

C horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—2 to 6
Texture—silty clay loam, silt loam, loam, fine sandy loam, or sandy loam; including stratified layers of these textures or their gravelly or cobbly analogues in some pedons
Reaction—very strongly acid to neutral
Rock fragment content—typically 0 to 14 percent; ranging to 20 percent

The Nolin soils in Harrison County are considered taxadjuncts to the series because they have a regular decrease in organic-carbon content between a depth of 10 and 50 inches. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Dystric Eutrudepts.

Pekin Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudults

Typical Pedon

Pekin silt loam; on a 3 percent slope in a cultivated field, 2,300 feet east and 2,100 feet south of the northwest corner of sec. 23, T. 2 S., R. 5 E.; Floyd County, Indiana; USGS Georgetown, Indiana topographic quadrangle; lat. 38 degrees 19 minutes 30.1 seconds N. and long. 85 degrees 55 minutes 47.9 seconds W.; UTM Zone 16, 593530 easting and 4242423 northing, NAD 83:

Ap—0 to 10 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.
Bt1—10 to 16 inches; yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; friable; few faint yellowish brown (10YR 5/4) clay films on faces of peds; slightly acid; clear smooth boundary.
Bt2—16 to 24 inches; yellowish brown (10YR 5/4) silt loam; moderate medium and fine subangular blocky structure; friable; common distinct yellowish brown (10YR 5/6) clay films on faces of peds; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.
Btx1—24 to 29 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine vesicular pores; many distinct dark yellowish brown (10YR 4/6) clay films on faces

of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 35 percent brittle; strongly acid; gradual wavy boundary.

Btx2—29 to 45 inches; yellowish brown (10YR 5/6) silt loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine vesicular pores; many prominent grayish brown (10YR 5/2) and common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 45 percent brittle; extremely acid; gradual wavy boundary.

C—45 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; firm; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid.

Range in Characteristics

Depth to a layer with fragic soil properties: Typically 20 to 38 inches; ranging from 10 to 20 inches in severely eroded pedons

Depth to the base of the argillic horizon: 40 to 70 inches

Ap horizon:

Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (if it occurs):

Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:

Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or strongly acid; ranging to neutral in the upper part of horizon

Btx or Btxg horizon:

Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid
Rock fragment content—0 to 7 percent gravel

C or Cg horizon:

Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 6
Texture—commonly silt loam, silty clay loam, or loam; less commonly sandy loam or fine sandy loam
Reaction—very strongly acid to neutral
Rock fragment content—0 to 14 percent gravel

The Pekin soils in Harrison County are considered taxadjuncts to the series because they do not have a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more as defined for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Fragiaquic Hapludults.

Percell Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Percell silt loam; on a 3 percent slope in a cultivated field, 2,300 feet west and 2,600 feet north of the southeast corner of sec. 31, T. 5 S., R. 3 W.; Perry County, Indiana; USGS Fulda, Indiana topographic quadrangle; lat. 38 degrees 01 minute 14.4 seconds N. and long. 86 degrees 46 minutes 40.6 seconds W.; UTM Zone 16, 519476 easting and 4213681 northing, NAD 83:

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many fine roots throughout; slightly acid; abrupt smooth boundary.

Bt1—8 to 12 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many fine roots between peds; common medium distinct brown (10YR 4/3) organic coatings on faces of peds; common faint yellowish brown (10YR 5/4) clay films on faces of peds; neutral; clear wavy boundary.

Bt2—12 to 22 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many fine roots between peds; many faint yellowish brown (10YR 5/4) clay films on faces of peds; moderately acid; clear wavy boundary.

Bt3—22 to 30 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many fine roots between peds; many faint brown (7.5YR 5/4) clay films on faces of peds; common medium prominent light yellowish brown (10YR 6/4) silt coats on faces of peds; strongly acid; clear wavy boundary.

Bt4—30 to 49 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many fine roots between peds; many prominent brown (7.5YR 4/4) clay films on faces of peds; many coarse prominent light gray (10YR 7/2) iron depletions in the matrix; few irregular black (10YR 2/1) iron-manganese concretions; strongly acid; clear wavy boundary.

2Bt5—49 to 60 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common fine roots between peds; few prominent light brownish gray (10YR 6/2) clay films on faces of peds; many fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common irregular black (10YR 2/1) iron-manganese concretions; slightly acid; clear wavy boundary.

2Bt6—60 to 70 inches; brown (10YR 5/3) silty clay; weak medium prismatic structure parting to strong medium angular blocky; firm; common distinct light brownish gray (10YR 6/2) clay films on faces of peds; few fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear wavy boundary.

2Btk—70 to 80 inches; brown (10YR 5/3) silty clay; weak medium prismatic structure parting to strong medium angular blocky; firm; common distinct light brownish gray (10YR 6/2) clay films on faces of peds; few fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; common irregular carbonate nodules; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to base of argillic horizon and to carbonates: 60 to more than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid to moderately acid in non-limed areas; ranging to neutral in limed areas

Bt horizon:
Hue—10YR or 7.5YR
Value—5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—strongly acid to moderately acid; ranging to neutral in the upper part of horizon

2Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or silty clay; including strata of silt loam
Reaction—moderately acid to neutral

2Btk horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—horizon is commonly silty clay and less commonly silt loam or silty clay loam and can be stratified
Reaction—slightly alkaline or moderately alkaline

Riney Series

Taxonomic classification: Fine-loamy, siliceous, semiactive, mesic Typic Hapludults

Typical Pedon

Riney loam; in a pasture, 350 feet west of Kentucky Highway 1135 and 825 feet south of Round Top Baptist Church, about 5 miles southeast of Elizabethtown; Hardin County, Kentucky; USGS Elizabethtown, Kentucky topographic quadrangle; lat. 37 degrees 37 minutes 51.9 seconds N. and long. 85 degrees 49 minutes 21.0 seconds W.; UTM Zone 16, 603898 easting and 4165539 northing, NAD 83:

A—0 to 4 inches; dark grayish brown (10YR 4/2) loam; weak fine and medium granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.
E—4 to 8 inches; brown (10YR 5/3) loam; weak fine and medium granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.
Bt1—8 to 32 inches; yellowish red (5YR 4/6) clay loam; moderate medium and fine subangular blocky structure; firm; common fine roots; common small pores; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt2—32 to 54 inches; red (2.5YR 4/6) sandy clay loam; common medium distinct strong brown (7.5YR 5/6) lithomorphic mottles; moderate medium subangular blocky structure; firm; few fine roots; common faint yellowish red (5YR 4/6) clay

films on faces of peds; few medium sandstone fragments; very strongly acid; gradual smooth boundary.

C—54 to 65 inches; red (2.5YR 4/6) sandy loam; common coarse distinct strong brown (7.5YR 5/6) lithomorphic mottles; massive; friable; few small sandy clay loam bodies; 10 percent medium sandstone fragments; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 80 inches

Reaction: Strongly acid to neutral in the surface layer and very strongly acid or strongly acid in the solum and substratum, except in limed areas

Ap horizon:

Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam, fine sandy loam, clay loam, or sandy clay loam
Rock fragment content—0 to 10 percent quartzite or sandstone gravel, 1/4 to 1 inch in diameter

A horizon (if it occurs):

Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—loam or sandy loam
Rock fragment content—0 to 10 percent quartzite or sandstone gravel, 1/4 to 1 inch in diameter

AB or E horizon (if it occurs):

Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture—loam, fine sandy loam, clay loam, or sandy clay loam
Rock fragment content—0 to 10 percent quartzite or sandstone gravel, 1/4 to 1 inch in diameter

Bt horizon:

Hue—dominantly 5YR or 2.5YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, fine sandy loam, clay loam, or sandy clay loam
Rock fragment content—typically 0 to 10 percent and ranging to 20 percent quartzite or sandstone gravel, 1/4 to 1 inch in diameter, in the upper part; 0 to 40 percent in the lower part
Other characteristics—some pedons have hue of 10YR or 7.5YR in the upper part and lithomorphic mottles in shades of red or brown in the lower part

C horizon and BC or CB horizon:

Hue—10YR, 7.5YR, 5YR, or 2.5YR
Value—4 or 5
Chroma—4 to 8
Texture—sandy clay loam, sandy loam, fine sandy loam, or loamy sand
Rock fragment content—typically 0 to 10 percent and ranging to 40 percent quartzite or sandstone gravel
Other characteristics—some pedons are underlain by weakly consolidated sandstone, which crushes easily to the above mentioned textures

Sciotoville Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudalfs

Typical Pedon

Sciotoville silt loam; on a 1 percent slope in a cultivated field, 2,150 feet west and 1,200 feet south of the northeast corner of sec. 29, T. 7 S., R. 2 W; Perry County, Indiana; USGS Cloverport, Indiana topographic quadrangle; lat. 37 degrees 52 minutes 42.0 seconds N. and long. 86 degrees 38 minutes 56.7 seconds W.; UTM Zone 16, 530858 easting and 4192375 northing, NAD 83:

Ap—0 to 9 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate medium granular structure; friable; many fine roots; 1 percent rounded quartzite gravel; strongly acid; abrupt smooth boundary.

Bt1—9 to 15 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; friable; common fine roots between peds; common faint strong brown (7.5YR 5/6) clay films on faces of peds; 1 percent rounded quartzite gravel; strongly acid; clear wavy boundary.

Bt2—15 to 23 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; friable; common fine roots between peds; common faint strong brown (7.5YR 5/6) clay films on faces of peds; common fine and medium prominent light gray (10YR 7/2) iron depletions in the matrix; 1 percent rounded quartzite gravel; very strongly acid; clear wavy boundary.

Bt/E—23 to 27 inches; 60 percent strong brown (7.5YR 4/6) silt loam (Bt part); weak medium prismatic structure parting to strong medium subangular blocky; firm; common distinct brown (7.5YR 4/4) clay films on faces of peds; 40 percent light brownish gray (10YR 6/2) silt loam (E part), weak fine subangular blocky structure, friable; common fine faint pale brown (10YR 6/3) iron depletions in the matrix; 1 percent rounded quartzite gravel; very strongly acid; clear wavy boundary.

Btx1—27 to 32 inches; strong brown (7.5YR 4/6) silty clay loam; moderate medium and coarse prismatic structure; very firm; many distinct brown (7.5YR 4/4) clay films on faces of peds; many medium prominent light gray (10YR 7/2) clay depletions on faces of peds; 1 percent rounded quartzite gravel; 75 percent brittle; very strongly acid; clear wavy boundary.

Btx2—32 to 41 inches; strong brown (7.5YR 4/6) clay loam; moderate medium and coarse prismatic structure; very firm; many distinct brown (7.5YR 4/4) clay films on faces of peds; many medium prominent light gray (10YR 7/2) clay depletions on faces of peds; 1 percent rounded quartzite gravel; 75 percent brittle; very strongly acid; clear wavy boundary.

Btx3—41 to 50 inches; strong brown (7.5YR 4/6) loam; moderate medium and coarse prismatic structure; very firm; many distinct brown (7.5YR 4/4) clay films on faces of peds; many medium prominent light gray (10YR 7/2) clay depletions on faces of peds; 1 percent rounded quartzite gravel; 70 percent brittle; very strongly acid; clear wavy boundary.

B´t—50 to 80 inches; strong brown (7.5YR 4/6) loam; moderate medium subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; 2 percent rounded quartzite gravel; strongly acid.

Range in Characteristics

Depth to base of argillic horizon: 60 to more than 80 inches
Depth to fragic soil properties: 20 to 38 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5

Chroma—2 to 4
Texture—silt loam
Reaction—strongly acid to neutral
Rock fragment content—0 to 2 percent gravel

A horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—strongly acid or moderately acid
Rock fragment content—0 to 2 percent gravel

Bt and Bt/E horizon:
Hue—7.5YR or 10YR (Bt part); 10YR (E part)
Value—4 or 5 (Bt part); 5 to 7 (E part)
Chroma—3 to 6 (Bt part); 1 or 2 (E part)
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 5 percent gravel

Btx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam, silty clay loam, loam, or clay loam
Reaction—very strongly acid or strongly acid
Rock fragment content—0 to 5 percent gravel

B´t or BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—commonly silt loam, silty clay loam, or loam; less commonly clay loam or sandy loam
Reaction—very strongly acid to slightly acid
Rock fragment content—0 to 14 percent gravel

The Sciotoville soils in Harrison County are considered taxadjuncts to the series because they do not have a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more as defined for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Fragiaquic Hapludalfs.

Shircliff Series

Taxonomic classification: Fine, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon

Shircliff silt loam; on a 3 percent slope in a cultivated field, 400 feet east and 750 feet north of the southwest corner of sec. 13, T. 5 S., R. 1 W.; Perry County, Indiana; USGS Alton, Indiana topographic quadrangle; lat. 38 degrees 04 minutes 28.1 seconds N. and long. 86 degrees 28 minutes 4.9 seconds W.; UTM Zone 16, 546658 easting and 4214214 northing, NAD 83:

Ap—0 to 8 inches; 90 percent brown (10YR 5/3) and 10 percent yellowish brown (10YR 5/6) silt loam, very pale brown (10YR 7/3 and 7/4) dry; weak fine

subangular blocky structure; friable; many fine roots; strongly acid; abrupt smooth boundary.

Bt1—8 to 19 inches; yellowish brown (10YR 5/6) silty clay loam; strong fine subangular blocky structure; friable; common fine roots; common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many distinct light yellowish brown (10YR 6/4) silt coats on faces of peds; very strongly acid; clear wavy boundary.

2Bt2—19 to 28 inches; strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct light yellowish brown (10YR 6/4) silt coats on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Bt3—28 to 43 inches; dark yellowish brown (10YR 4/4) silty clay; strong coarse angular blocky structure; very firm; few fine roots; many prominent light brownish gray (10YR 6/2) clay films on faces of peds; many medium distinct gray (10YR 6/1) iron depletions in the matrix; moderately acid; clear wavy boundary.

2Btk1—43 to 53 inches; dark yellowish brown (10YR 4/4) silty clay; strong coarse angular blocky structure; very firm; few fine roots; common distinct brown (10YR 5/3) and few distinct light brownish gray (10YR 6/2) clay films on faces of peds; many medium distinct gray (10YR 6/1) iron depletions in the matrix; few medium irregular calcium carbonate nodules; slightly effervescent; moderately alkaline; clear wavy boundary.

2Btk2—53 to 59 inches; brown (10YR 5/3) silty clay loam; moderate coarse subangular blocky structure; very firm; few fine roots; common faint brown (10YR 5/3) and few prominent light brownish gray (10YR 6/2) clay films on faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of oxidized iron in the matrix; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; few medium irregular calcium carbonate nodules; strongly effervescent; moderately alkaline; clear wavy boundary.

2Btk3—59 to 80 inches; dark yellowish brown (10YR 4/4) silty clay; strong coarse subangular blocky structure; very firm; common distinct brown (10YR 5/3) and few prominent gray (10YR 6/1) clay films on faces of peds; common fine distinct gray (10YR 6/1) iron depletions in the matrix; few medium irregular calcium carbonate nodules; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 6 to 20 inches
Depth to carbonates: 30 to 60 inches
Depth to the base of the argillic horizon: 40 to more than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral

A horizon (if it occurs):
Hue—10YR
Value—3 to 5
Chroma—1 to 3
Texture—silt loam
Reaction—strongly acid or moderately acid
Thickness—less than 5 inches

Bt horizon:
Hue—7.5YR or 10YR

Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to moderately acid

2Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—4 to 6
Texture—silty clay loam or silty clay
Reaction—very strongly acid to slightly alkaline

2Btk, 2BCk, 2Btgk, or 2BCgk horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—commonly silty clay or silty clay loam; less commonly silt loam
Reaction—slightly alkaline or moderately alkaline

Tipsaw Series

Taxonomic classification: Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts

Typical Pedon

Tipsaw very fine sandy loam; on a 45 percent slope in woodland, 400 feet south and 300 feet west of the northeast corner of sec. 3, T. 4 S., R. 3 W.; Perry County, Indiana; USGS Bristow, Indiana topographic quadrangle; lat. 38 degrees 12 minutes 11.3 seconds N. and long. 86 degrees 43 minutes 01.0 second W.; UTM Zone 16, 524804 easting and 4228394 northing, NAD 83:

A—0 to 2 inches; 80 percent very dark gray (10YR 3/1) and 20 percent brown (10YR 5/3) very fine sandy loam, dark gray (10YR 4/1) and light brownish gray (10YR 6/2) dry; weak very fine granular structure; friable; many fine and medium roots throughout; 5 percent strongly cemented sandstone channers; extremely acid; clear smooth boundary.

E—2 to 5 inches; brown (10YR 5/3) very fine sandy loam, very pale brown (10YR 7/3) dry; weak very fine subangular blocky structure; friable; many fine and medium roots throughout; 14 percent strongly cemented sandstone channers; extremely acid; clear wavy boundary.

Bw1—5 to 13 inches; yellowish brown (10YR 5/6) parachannery very fine sandy loam; moderate fine subangular blocky structure; friable; common fine and medium roots throughout; 10 percent strongly cemented sandstone channers and 25 percent weakly cemented sandstone parachanners; very strongly acid; clear wavy boundary.

Bw2—13 to 20 inches; yellowish brown (10YR 5/6) channery very fine sandy loam; moderate fine subangular blocky structure; friable; common fine roots throughout; common distinct light yellowish brown (10YR 6/4) skeletans (sand or silt) on faces of peds and in pores; 30 percent strongly cemented sandstone channers and 30 percent weakly cemented parachanners; very strongly acid; clear wavy boundary.

BC—20 to 28 inches; strong brown (7.5YR 5/6) channery loam; weak coarse prismatic structure parting to moderate fine subangular blocky; friable; common distinct very pale brown (10YR 7/3) skeletans (sand or silt) on faces of peds and in pores; 30 percent strongly cemented sandstone channers and 30 percent weakly cemented parachanners; extremely acid; clear wavy boundary.

Cr—28 to 60 inches; weakly cemented and moderately cemented sandstone interbedded with siltstone, shale, and very strongly cemented sandstone.

Range in Characteristics

Depth to base of the cambic horizon and bedrock (paralithic contact): 20 to 40 inches

A horizon:
Hue—10YR
Value—2 to 5
Chroma—1 to 4
Texture—very fine sandy loam
Reaction—extremely acid to strongly acid
Pararock fragment content—0 to 15 percent
Rock fragment content—0 to 15 percent channers

E horizon and EB horizon (if it occurs):
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—loam, sandy loam, fine sandy loam, or very fine sandy loam or their channery or parachannery analogues
Reaction—extremely acid to strongly acid
Pararock fragment content—0 to 30 percent
Rock fragment content—0 to 30 percent

Bw horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—4 to 6
Texture—commonly loam, sandy loam, fine sandy loam, or very fine sandy loam or their channery or parachannery to extremely parachannery analogues; less commonly silt loam or its channery or parachannery to extremely parachannery analogues
Reaction—extremely acid to strongly acid
Pararock fragment content—5 to 70 percent
Rock fragment content—10 to 35 percent

BC horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 8
Texture—loam, sandy loam, or very fine sandy loam or their channery or very parachannery to extremely parachannery analogues
Reaction—extremely acid to strongly acid
Pararock fragment content—25 to 70 percent
Rock fragment content—10 to 35 percent

Cr horizon:
Texture—weakly or moderately cemented sandstone interbedded with siltstone, shale, and strongly cemented to indurated sandstone

Vertrees Series

Taxonomic classification: Fine, mixed, semiactive, mesic Typic Paleudalfs (fig. 18)

Figure 18.—Profile of Vertrees silt loam in an area of Crider-Vetrees silt loams, karst, rolling, eroded. This very deep soil developed from a thin layer of loess and the very clayey residuum from limestone. Chert and large limestone "floaters" are common. Measurements are in feet.

Typical Pedon

Vertrees silt loam; on a moderately sloping pasture field, 2,200 feet south and 300 feet east of the northwest corner of sec. 8, T. 4 S, R. 4 E.; Harrison County Indiana; Corydon East, IN topographic quadrangle; lat. 38 degrees 10 minutes 47.7 seconds N. and long. 86 degrees 06 minutes 16.8 seconds W.; UTM Zone 16, 578414 easting and 4226157 northing, NAD 83:

Ap1—0 to 3 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure parting to moderate fine granular; friable; many very fine and fine roots; slightly acid; clear smooth boundary.

Ap2—3 to 8 inches; 80 percent dark yellowish brown (10YR 4/4), 15 percent yellowish brown (10YR 5/6), and 5 percent brown (10YR 4/3) silt loam; moderate fine subangular blocky structure parting to moderate medium granular; friable; many fine roots; neutral; abrupt smooth boundary.

2Bt1—8 to 12 inches; red (2.5YR 4/6) clay; moderate fine and very fine angular blocky structure; firm; few very fine and fine roots; many distinct reddish brown (2.5YR

4/4) clay films on faces of peds; few distinct dark yellowish brown (10YR 4/4) organic stains on faces of peds; approximately 7 percent fragments of chert gravel; neutral; clear wavy boundary.

2Bt2—12 to 20 inches; dark red (2.5YR 3/6) clay; strong very fine and fine angular blocky structure; firm; common very fine roots; many distinct dark reddish brown (2.5YR 3/4) clay films on faces of peds; 11 percent fragments of chert gravel; neutral; gradual wavy boundary.

2Bt3—20 to 46 inches; dark red (2.5YR 3/6) clay; strong very fine and fine angular blocky structure; firm; common very fine roots; many distinct dark reddish brown (2.5YR 3/4) clay films on faces of peds; few medium prominent black (10YR 2/1) manganese coatings on faces of peds; 3 percent fragments of chert gravel; very strongly acid; gradual wavy boundary.

2Bt4—46 to 62 inches; dark red (2.5YR 3/6) gravelly clay; strong very fine and fine angular blocky structure; firm; common very fine roots; many distinct dark reddish brown (2.5YR 3/4) clay films of faces of peds; few medium prominent black (10YR 2/1) manganese coatings on faces of peds; 17 percent fragments of chert gravel; neutral; gradual wavy boundary.

2Bt5—62 to 84 inches; red (2.5YR 4/8) clay; strong fine angular blocky structure; many distinct dark reddish brown (2.5YR 3/4) clay films on faces of peds; few medium prominent black (10YR 2/1) manganese coatings on faces of peds; 2 percent stones of limestone and 7 percent fragments of chert gravel; slightly acid.

Range in Characteristics

Solum thickness and depth to bedrock (lithic contact): 60 to 120 inches or more

Reaction: Moderately acid to very strongly acid in non-limed areas; in limed areas ranging to neutral to a depth of about 50 inches and from very strongly acid to neutral below a depth of 50 inches

Rock fragment content: 1 to 30 percent, by volume, in the A and BE horizons; 0 to 25 percent, by volume, in individual Bt horizons to a depth of about 50 inches, with a weighted average of rock fragments of less than 15 percent, consisting dominantly of chert from limestone; below a depth of 50 inches, chert fragments range from 0 to 35 percent, by volume, and stones of limestone are less than 5 percent

Ap horizon:

Hue—10YR to 5YR
Value—4 or 5
Chroma—2 to 4
Texture—dominantly silt loam; silty clay loam, gravelly silt loam, or gravelly silty clay loam in severely eroded areas

A horizon (if it occurs):

Hue—10YR or 7.5YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam
Thickness—1 to 6 inches

BA or BE horizon (if it occurs):

Hue—10YR to 5YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam or their gravelly analogues
Thickness—0 to 7 inches

2Bt horizon (upper part):

Hue—5YR or 2.5YR

Value—4 or 5
Chroma—6 to 8; in some pedons horizon is mottled in shades of brown and red
Texture—clay or silty clay or their gravelly analogues

2Bt horizon (middle and lower parts):
Hue—7.5YR to 10R
Value—3 to 5
Chroma—6 to 8
Texture—clay or silty clay or their gravelly or very gravelly analogues
Other characteristics—horizon has few or common mottles in shades of brown, red, or yellow and in some pedons below a depth of 30 inches has shades of gray; many pedons have small black or very dark brown iron-manganese concretions or black manganese coatings on peds, commonly in the lower part of the solum

The Vertrees soils in Harrison County are considered taxadjuncts to the series because they average more that 60 percent clay in the particle-size control section. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as very fine, mixed, semiactive, mesic Typic Paleudalfs.

Wellston Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Typical Pedon

Wellston silt loam; on a 14 percent slope in a pasture field, 600 feet north and 2,250 feet east of the southwest corner of sec. 30, T. 4 S., R. 3 W.; Perry County, Indiana; USGS Saint Meinrad, Indiana topographic quadrangle; lat. 38 degrees 08 minutes 02.5 seconds N. and long. 86 degrees 47 minutes 01.0 second W.; UTM Zone 16, 518965 easting and 4220708 Northing, NAD 83:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.
Bt1—8 to 19 inches; strong brown (7.5YR 5/6) silt loam; moderate fine subangular blocky structure; friable; common fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) weakly cemented iron-manganese concretions in the matrix; very strongly acid; gradual smooth boundary.
Bt2—19 to 26 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) weakly cemented iron-manganese concretions in the matrix; very strongly acid; gradual smooth boundary.
2Bt3—26 to 37 inches; yellowish brown (10YR 5/6) loam; weak fine subangular blocky structure; friable; few fine roots; common distinct yellowish brown (10YR 5/4) and brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) weakly cemented iron-manganese concretions; 2 percent sandstone channers; very strongly acid; gradual smooth boundary.
2Bt4—37 to 41 inches; yellowish brown (10YR 5/6) loam; weak fine subangular blocky structure; friable; few fine roots; common distinct yellowish brown (10YR 5/4) and brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) weakly cemented iron-manganese concretions; 5 percent sandstone channers; very strongly acid; gradual smooth boundary.
2BC1—41 to 50 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine

subangular blocky structure; very friable; few fine prominent black (10YR 2/1) weakly cemented iron-manganese concretions; 5 percent sandstone channers; very strongly acid; clear smooth boundary.

2BC2—50 to 54 inches; yellowish brown (10YR 5/4) parachannery fine sandy loam and channery fine sandy loam; weak thin platy structure parting to weak very fine subangular blocky; very friable; common medium prominent yellowish red (5YR 4/6) masses of oxidized iron on faces of peds; common fine prominent black (10YR 2/1) weakly cemented iron-manganese concretions; 30 percent sandstone parachanners and 20 percent sandstone channers; very strongly acid; clear smooth boundary.

2Cr—54 to 60 inches; weakly cemented sandstone interbedded with very strongly cemented sandstone and weakly cemented shale.

Range in Characteristics

Thickness of loess: 20 to 40 inches
Depth to base of argillic horizon: 32 to 55 inches
Depth to bedrock (paralithic contact): 40 to 72 inches

A horizon:
Hue—10YR
Value—2 to 4
Chroma—1 or 2

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—extremely acid to strongly acid in non-limed areas; ranging to neutral in limed areas

Bt horizon and BE horizon (if it occurs):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid to moderately acid
Rock fragment content—0 to 14 percent channers

2Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—4 to 8
Texture—commonly loam, fine sandy loam, or sandy loam; less commonly silt loam, clay loam, or sandy clay loam or the channery analogues of these textures
Rock fragment content—2 to 20 percent channers
Reaction—very strongly acid or strongly acid

2BC horizon and 2CB horizon (if it occurs):
Hue—commonly 10YR or 7.5YR; less commonly 2.5Y
Value—4 or 5
Chroma—4 to 8
Texture—commonly channery, parachannery, or very parachannery analogues of loam, fine sandy loam, or sandy loam; less commonly silt loam, clay loam, or sandy clay loam
Pararock fragment content—10 to 60 percent parachanners

Rock fragment content—10 to 37 percent channers
Reaction—very strongly acid or strongly acid

2Cr horizon:
Texture—weakly or moderately cemented interbedded shale and sandstone with thin layers of very strongly cemented sandstone

Wilbur Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts

Typical Pedon

Wilbur silt loam; on a nearly level slope in a cultivated field, 2,245 feet north and 1,450 feet east of the southwest corner of donation 99, T. 1 S., R. 10 W.; Gibson County, Indiana; USGS Patoka, Indiana topographic quadrangle; lat. 38 degrees 24 minutes 46.1 seconds N. and long. 87 degrees 34 minutes 10.1 seconds W.; UTM Zone 16, 450283 easting and 4251774 northing, NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.
Bw1—7 to 17 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; few fine roots; few fine faint brown (10YR 5/3) iron depletions in the matrix; neutral; gradual smooth boundary.
Bw2—17 to 32 inches; brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
Cg—32 to 60 inches; light brownish gray (10YR 6/2) silt loam; massive; friable; many fine distinct brown (7.5YR 4/4) and common fine distinct dark yellowish brown (10YR 4/4) masses of oxidized iron in the matrix; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 42 inches

Ap or A horizon:
Hue—10YR
Value—4
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—commonly moderately acid to neutral; less commonly ranging to slightly alkaline

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam; the lower part of horizon can include loam and thin strata of fine sandy loam or sandy loam

Reaction—commonly moderately acid to neutral; less commonly ranging to slightly alkaline

Woodmere Series

Taxonomic classification: Fine, mixed, active, mesic Oxyaquic Eutrudepts

Typical Pedon

Woodmere silt loam; on a 1 percent slope in a cultivated field, 1,900 feet north and 1,200 feet west of the southeast corner of sec. 12, T. 6 S., R. 4 E.; Harrison County, Indiana; USGS Rock Haven, KY-IN topographic quadrangle; lat. 37 degrees 59 minutes 59.3 seconds N. and long. 86 degrees 00 minutes 54.5 seconds W.; UTM Zone 16, 586468 easting and 4206253 northing, NAD 83:

Ap1—0 to 4 inches; dark yellowish brown (10YR 4/4) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common fine and medium roots; few medium distinct black (10YR 2/1) manganese masses in the matrix; few mica flakes; strongly acid; abrupt smooth boundary.

Ap2—4 to 10 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure parting to moderate medium granular; friable; common fine and medium roots; few medium distinct irregular black (10YR 2/1) manganese masses in the matrix; few mica flakes; strongly acid; abrupt smooth boundary.

Bw1—10 to 19 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent yellowish brown (10YR 5/4) silt loam; moderate medium and fine subangular blocky structure; firm; common fine roots; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; common medium distinct irregular black (10YR 2/1) iron-manganese concretions in the matrix; common mica flakes; strongly acid; gradual wavy boundary.

Bw2—19 to 25 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and fine subangular blocky structure; firm; common medium and fine roots; few distinct yellowish brown (10YR 5/4) organic stains on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of oxidized iron and common fine distinct black (10YR 2/1) manganese masses in the matrix; common medium distinct irregular black (10YR 2/1) iron-manganese concretions in the matrix; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; common mica flakes; very strongly acid; gradual wavy boundary.

2Btb1—25 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few faint brown (10YR 5/3) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; many medium distinct irregular black (10YR 2/1) iron-manganese concretions in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions on faces of peds; many mica flakes; very strongly acid; gradual wavy boundary.

2Btb2—34 to 43 inches; brown (7.5YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few distinct brown (10YR 5/3) and many prominent light brownish gray (10YR 6/2) clay films on faces of peds; many medium prominent black (10YR 2/1) manganese coatings on faces of peds; few medium prominent spherical black (10YR 2/1) iron-manganese concretions in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; many mica flakes; very strongly acid; gradual wavy boundary.

2Btb3—43 to 65 inches; brown (7.5YR 4/4) silty clay loam; weak fine prismatic

structure parting to moderate medium subangular blocky; firm; common prominent brown (10YR 5/3) and many prominent grayish brown (10YR 5/2) clay films on faces of peds; many medium distinct very dark grayish brown (10YR 3/2) manganese coatings on faces of peds; few medium prominent spherical black (10YR 2/1) iron-manganese concretions in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; many mica flakes; strongly acid; gradual wavy boundary.

2Btb4—65 to 80 inches; brown (7.5YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few prominent brown (10YR 5/3) and grayish brown (10YR 5/2) clay films on faces of peds; many medium distinct very dark grayish brown (10YR 3/2) manganese coatings on faces of peds; few medium prominent spherical black (10YR 2/1) iron-manganese concretions in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; many mica flakes; moderately acid.

Range in Characteristics

Thickness of recent alluvium: 20 to 36 inches
Solum thickness: 50 to more than 80 inches

Ap horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—silt loam
Reaction—strongly acid to neutral, depending on liming practices

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam
Reaction—very strongly acid to neutral

2Bwb horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—silty clay loam or silty clay
Reaction—very strongly acid to moderately acid

2Btb, 2BC, or 2C horizon (if it occurs):
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—commonly silty clay loam or clay loam; less commonly silty clay or thin strata of loam or sandy loam
Reaction—very strongly acid to moderately acid

The Woodmere soils in Harrison County are considered taxadjuncts to the series because they average less than 35 percent clay in the particle-size control section and have a base saturation of less than 60 percent in all horizons between a depth of 10 and 30 inches. These differences, however, do not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, active, mesic Aquic Dystrudepts.

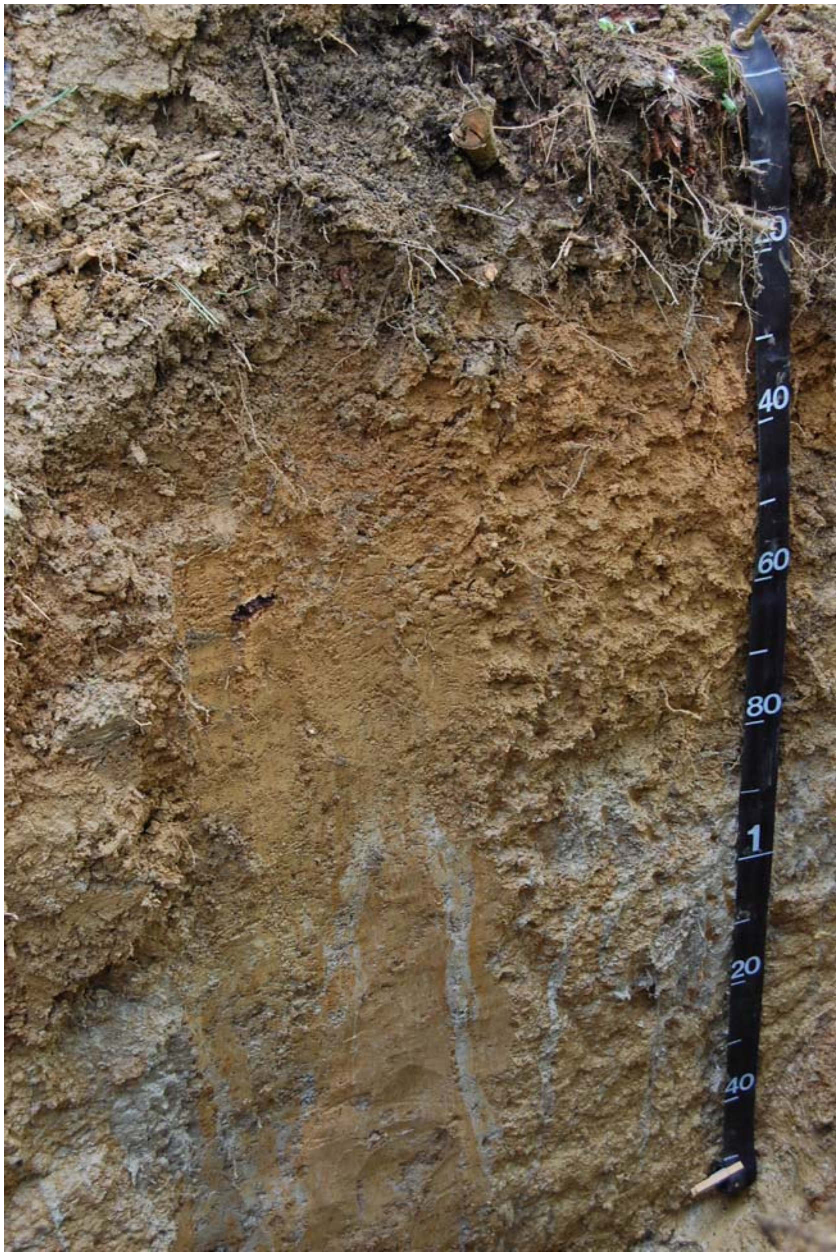

Figure 19.—Profile of Zanesville silt loam in an area of Apalona-Zanesville silt loams, 2 to 6 percent slopes. This soil has a darker surface layer overlying a brown argillic horizon over a fragipan starting at a depth of about 80 centimeters. Measurements are in centimeters.

Zanesville Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs (fig. 19)

Typical Pedon

Zanesville silt loam; in a gently sloping pasture field, 2,600 feet north and 2,600 feet west of the southeast corner of sec. 11, T. 1 N., R. 2 E.; Washington County, Indiana; USGS Livonia, Indiana topographic quadrangle; lat. 38 degrees 32 minutes 07.7

seconds N. and long. 86 degrees 15 minutes 41.5 seconds W.; UTM Zone 16, 564362 easting and 4265489 northing, NAD 83:

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; friable; many fine roots between peds; neutral; abrupt smooth boundary.

Bt1—7 to 14 inches; dark yellowish brown (10YR 4/6) silt loam; moderate medium subangular blocky structure; firm; common fine roots between peds; few fine tubular pores; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; neutral; clear wavy boundary.

Bt2—14 to 20 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine subangular blocky structure; firm; common fine roots between peds; few fine tubular pores; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; many prominent light gray (10YR 7/2) silt coats on faces of peds; few medium distinct light yellowish brown (10YR 6/4) masses of oxidized iron in the matrix; few fine prominent spherical black (10YR 2/1) manganese masses in the matrix; common distinct pale brown (10YR 6/3) clay depletions on faces of peds; very strongly acid; clear smooth boundary.

Btx1—20 to 26 inches; yellowish brown (10YR 5/6) silty clay loam; moderate coarse prismatic structure parting to strong fine subangular blocky; very firm; common fine roots in cracks; few fine tubular pores; many faint yellowish brown (10YR 5/4) clay films on faces of peds; common prominent light gray (10YR 7/2) silt coats on faces of peds; few fine prominent spherical black (10YR 2/1) manganese masses in the matrix; many medium prominent gray (10YR 6/1) iron depletions in the matrix; 65 percent brittle; very strongly acid; clear wavy boundary.

2Btx2—26 to 48 inches; yellowish brown (10YR 5/6) clay loam; moderate very coarse prismatic structure parting to moderate medium subangular blocky; very firm; few fine roots in cracks; few fine tubular pores; many faint yellowish brown (10YR 5/4) clay films on faces of peds; few fine prominent spherical black (10YR 2/1) manganese masses in the matrix; many prominent light brownish gray (10YR 6/2) and many distinct pale brown (10YR 6/3) clay depletions on faces of peds and prisms; 2 percent sandstone channers; 75 percent brittle; very strongly acid; clear wavy boundary.

2BCt—48 to 56 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; firm; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses of oxidized iron in the matrix; 5 percent sandstone channers; very strongly acid; clear smooth boundary.

3R—56 to 58 inches; strong brown (7.5YR 5/6) hard, fine-grained sandstone bedrock and interbedded shale.

Range in Characteristics

Depth to the fragipan: 20 to 32 inches
Thickness of loess: 20 to 40 inches
Thickness of the solum: 40 to 65 inches
Depth to bedrock (lithic contact): 40 to 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to moderately acid; ranging to neutral in limed areas

A horizon (if it occurs):
Hue—10YR
Value—3 or 4

Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid to moderately acid

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—strongly acid or very strongly acid; ranging to neutral in the upper part of horizon in limed areas

Btx and 2Btx horizons:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam, loam, silty clay loam, clay loam, or sandy clay loam
Reaction—strongly acid or very strongly acid
Rock fragment content—0 to 14 percent channers of sandstone and shale

2BCt horizon (if it occurs):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam, silty clay loam, clay loam, or sandy clay loam or the channery or parachannery analogues of these textures
Reaction—strongly acid or very strongly acid
Rock fragment content—0 to 30 percent channers of sandstone and shale

Formation of the Soils

This section explains the major factors of soil formation and relates them to the soils in Harrison County. The processes of soil formation also are described.

Factors of Soil Formation

Soils form through processes acting upon deposits of plant and geologic materials. The characteristics of a soil at any given point are determined by 1) time, the total duration the soil-forming factors have acted upon the parent material, 2) parent material, the physical and mineralogical composition of the plant and geologic materials, 3) topography, the general configuration of the land's surface, 4) climate, the temperature and moisture conditions under which the soil formed, and 5) organisms, the plant and animal life on and in the soil (Jenny, 1941).

Parent material greatly affects the development of the soil. Climate and organisms are active factors of soil formation. They act upon the parent material through the weathering process and slowly change it into a natural body with genetically related horizons. The effects of climate and organisms are conditioned by the topography of the area. Finally, time is needed for the transformation of the parent material into a soil exhibiting horizonation.

The factors of soil formation are so closely interrelated in their effects on the soil and each other that few generalizations can be made regarding the effects of any one factor unless conditions are specified for the other four soil-forming factors.

Time

Generally, a long time is needed for the development of distinct soil horizons. The length of time that parent material has been in place commonly reflects the degree of profile development.

The soils in Harrison County range from immature to mature. Apalona, Crider, and Wellston soils that formed in loess over material weathered from bedrock have been exposed to the soil-forming factors long enough for the development of distinct horizons. Haymond, Huntington, Kintner, Wilbur, and other soils that formed in recent alluvium, however, have not been in place long enough for this kind of development. Some steep soils, such as Brownstown, Brussels, and Tipsaw soils, have been exposed to the soil-forming factors for a long time but do not have distinct horizons. Most of the precipitation that has fallen on these soils has run off the surface and thus has not moved through the profile; consequently, very little weathering of minerals or translocation of soil material has occurred.

Parent Material and Geology

Walt Hasenmueller, Research Scientist, Indiana Geological Survey, helped prepare this section.

The soils in Harrison County have formed in a large variety of parent materials associated with many landforms. Generally, soils formed in unconsolidated gravel, sand, silt, and clay deposited by streams and wind or they formed in material

weathered from shale, siltstone, sandstone, and limestone bedrock. The unconsolidated surficial materials are of variable thickness, ranging from 0 to more than 30 feet thick. Thus, bedrock is sufficiently close to the surface to exert influence on soil formation over extensive areas of the county. The upper part of many soils formed in a different kind of material than that of the lower part, and many soils formed in two or three kinds of parent materials.

The bedrock from east to west, and oldest to youngest, is made up of rocks of the Borden, Sanders, Blue River, West Baden, and Stephensport Groups. The bedrock exposed in Harrison County belongs to the Mississippian Systems of the Paleozoic Era and ranges in age from about 330 to 360 million years. These rocks consist of shale, siltstone, and limestone, which mostly originated as fine-grained sediments in warm, shallow marine waters that covered much of the North American continent. All bedrock units dip gently westward away from the Cincinnati Arch and toward the Illinois Basin at 25 to 30 feet per mile. As a result, rock units at the surface become successively younger in a westward direction in Harrison County. The relatively old St. Louis and Salem Limestones occur mainly in the eastern parts of the county.

Differential erosion of the dipping rocks has resulted in the development of three physiographic provinces—the Norman Upland, the Mitchell Plateau, and the Crawford Upland. The Norman Upland province, which consists of higher elevations and steeper slopes in the east-central part of the county, developed in the more resistant and massive siltstones of the Spickert Knob Formation. The Mitchell Plateau covers most of the central part of the county. It developed in limestones with many karst features. The Crawford Upland covers most of the western third of the county. It consists of hills underlain with interbedded shale, sandstone, siltstone, and limestone. Elevations in Harrison County range from a low of about 380 feet in the Ohio River valley to a high of about 972 feet above the Norman Upland just south of Floyd County.

The prominent Knobstone Escarpment, about 375 feet high, is a highly dissected, one-sided ridge facing east. This escarpment in eastern Harrison County is composed of a chain of steep, highly eroded hillslopes and ravines in which gray to drab siltstone of the Spickert Knob Formation occasionally crops out. On the lower part of the escarpment, the Spickert Knob is composed of gray to drab shaly siltstone formerly known as the Locust Point Formation. Gnawbone and Kurtz soils formed in the residuum from the shaly siltstone. The upper part of the escarpment, at elevations generally exceeding 800 feet, is composed of massive gray siltstone of the upper part of the Spickert Knob Formation, formerly known as the Carwood Formation. Brownstown and Gilwood soils formed in the silty residuum of this unit.

The Salem and St. Louis Limestones of Mississippian age underlie an area in eastern Harrison County. Bedford, Caneyville, Crider, Knobcreek, and Navilleton soils formed in thin or very thin loess and red clayey residuum generally known as “terra rossa” (Ruhe and Olson, 1980). This residuum is primarily made up of clay, iron oxide, and chert and includes other materials. Depth to limestone bedrock varies and ranges from outcropping on the surface to a depth of more than 15 feet. In the central part of the county, the landscape is pitted with numerous sinkholes, known as karst topography. Some of the Caneyville, Crider, Haggatt, Knobcreek, and Vertrees soils are separated to include “karst” phases.

In the extreme southeastern part of the county are small ridges that are generally at the slightly higher elevations above the soils that formed in residuum from limestone and shale. The origin of these ridges is not exactly known, but the nature of the underlying sand indicates a type of marine beach or channel fill sediment. These deposits, once called the Ohio River Formation, are part of the Bethel Formation of the West Baden Group. Gatton and Riney soils formed in materials consisting of, from the surface downward, silty loess and unconsolidated material derived from sandstone.

Formations of upper Mississippian age are the West Baden Group. This group, which is extensive in the western part of the county, consists of interbedded shale,

sandstone, siltstone, and limestone. Soils include Apalona, Deuchars, Ebal, Gilpin, Wellston, and Zanesville soils that formed in material weathered mainly from shale and sandstone and Haggatt soils that formed mainly in limestone residuum.

A period of broad uplift, erosion, and weathering lasting about 340 million years followed the deposition of the shale, siltstone, and limestone bedrock.

The period from 125,000 to 70,000 years before present was an interglacial period similar to the present characterized by weathering, erosion, and soil formation. Ice sheets formed about 70,000 years before present in Canada but did not reach Indiana until about 24,000 years ago. This Wisconsin ice advance halted about 50 miles north of Harrison County, but deposition of Wisconsin outwash in the Ohio River valley formed temporary lakes.

Melting of the ice sheet caused large quantities of sediment-charged meltwater to be discharged into streams which deposited sand and gravel in their valleys. Outwash sand and gravel deposited in the Ohio valley dammed the tributaries to the Ohio River and formed short-lived lakes in the lower Blue River, Buck Creek, Indian Creek, and Mosquito Creek. The lake levels rose to an elevation of at least 470 feet, as evidenced by lake sediments at this elevation and below. Sediments consisting of silty clay and clayey silt as much as 30 feet thick were deposited in the lakes. Markland, McGary, Percell, and Shircliff soils formed in lacustrine (lake) sediments and the overlying 1.5 feet or less of silty loess. These lacustrine sediments are dominantly clayey in the upper part and silty and clayey in the lower part.

Melting of Wisconsin ice between about 20,000 and 15,000 years ago in central Indiana resulted in the deposition of 2 to 3 feet of silty loess in Harrison County. As was the situation with the older “gritty” loess of probable Illinoian age, much of the silty loess later was reworked or removed by slope processes, lake water, and streams. Weathering, sheetwash, gullying, and stream action have continued to modify parts of the Harrison County landscape up to the present.

Several cycles of stream erosion involving lateral planation of valleys are evident in Harrison County. Modification of all pre-glacial valleys in the county occurred during and after each glacial stage, and some valleys were partially filled with alluvium, or lake sediment. Stream terraces, the flat remnants of former flood plains, occur in places along the margins of most valleys at elevations ranging from 6 to 20 feet above the modern flood plain.

The stream terraces along the Blue River, Buck Creek, Indian Creek, Little Indian Creek, and Mosquito Creek typically are 6 to 20 feet above their modern flood plains. These terraces are underlain by silty, loamy, acid alluvium and are capped by 2 to 3 feet of silty loess of late Wisconsin age. Bartle and Pekin soils formed in these loess-capped alluvial materials. The stream terraces along the Ohio River typically are 10 to 30 feet above their modern flood plains. These silty terraces, which formed in sediments from the Wisconsin ice advance, are underlain by loamy and sandy alluvium. Elkinsville, Millstone, and Sciotoville soils formed in these alluvial materials.

Alluvium was deposited on the flood plains during, between, and after the periods of glaciation. The composition of the alluvium on the modern flood plains in Harrison County varies according to the source of the alluvium, time of deposition, proximity in the valley, and overflow velocity of the water carrying the alluvial sediment. Most of the alluvial sediment deposited on the flood plains in the county is silty and ranges from neutral to very strongly acid. Haymond, Huntington, Lindside, Nolin, Newark, and Wilbur soils formed in this type of sediment. Kintner soils, in narrow tributaries, formed in loamy sediments over limestone bedrock.

Topography

Topography, or relief, has markedly influenced the soils in Harrison County through its effect on natural drainage, erosion, runoff, plant cover, and soil temperature. Some

soils formed in the same kind of parent material but differ mainly in drainage characteristics because of relief.

Runoff is most rapid on the steepest slopes. Many low, depressional areas are temporarily ponded. The greater the runoff rate, the greater the hazard of erosion.

Through its effect on aeration in the soil, drainage determines the major color of a soil. Water and air move freely through most well drained soils and slowly through very poorly drained soils. In Crider, Elkinsville, and other soils that are well aerated, the iron and aluminum compounds that give most soils their color are reddish or brownish and are oxidized. Laconia and other poorly aerated soils that are saturated for long periods commonly are dominantly gray with reddish and brownish masses of oxidized iron. The soils are gray because the iron compounds are in a reduced state or have been removed from the profile.

Soils on west- and south-facing slopes generally have a warmer soil temperature than soils on north- and east-facing slopes.

Climate

Climate largely determines the kind of plant and animal life on and in the soil. It also determines the amount of water available for the weathering of minerals and the translocation of soil material. Temperature determines the rate of chemical reactions in the soil. These effects tend to be uniform in relatively small areas, such as those the size of a county.

The climate in Harrison County is generally cool and moist in winter and hot and humid in summer. It is presumably similar to the one that prevailed when the soils formed. The climate is nearly uniform throughout the county, and thus differences among the soils in the county are not the result of varied climatic conditions.

Organisms

Plants have been the principal organisms influencing the soils in Harrison County, but bacteria, fungi, earthworms, and human activities also have been important. The chief contribution of plant and animal life is the addition of organic matter and nitrogen to the soil. The kind of organic material in and on the soil depends on the kind of native plants that grew on the soil. The remains of these plants accumulated in the surface layer, decayed, and eventually became humus. The roots of the plants provided channels for the downward movement of water and air through the soil, and they added organic matter as they decayed. Bacteria in the soil helped to break down the organic matter into plant nutrients.

The native vegetation in Harrison County was mainly deciduous, mixed hardwoods. Differences in natural soil drainage and minor variations in the parent material affected the composition of the forest species. Common trees on well drained soils, such as Brownstown and Gilwood soils, were yellow-poplar, white oak, red oak, hickory, elm, and sugar maple. Wet soils, such as Laconia soils, supported primarily sweetgum, pin oak, beech, and soft maple.

Processes of Soil Formation

Several processes have been involved in the formation of the soils in Harrison County. These processes are the accumulation of organic matter; the dissolution, transfer, and removal of calcium carbonates and bases; the liberation and translocation of silicate clay minerals; and the reduction and transfer of iron. In most of the soils, more than one of these processes have helped to differentiate soil horizons.

Some organic matter has accumulated in the surface layer of all of the soils in the county. The organic matter content of most of the soils is low or moderately low.

Carbonates and bases have been leached from the upper horizons of most of the soils in the county. Leaching probably preceded the translocation of silicate clay minerals. Almost all of the carbonates and some of the bases have been leached from the A and B horizons of the well drained soils. Even in the wettest soils, some leaching is indicated by the absence of carbonates and by an acid soil reaction. Leaching of wet soils is slow because of a seasonal high water table or the slow movement of water through the profile.

Clay accumulates in pores and other voids and forms films on the surfaces along which water moves. The leaching of bases and the translocation of silicate clays are among the more important processes affecting horizon differentiation in the soils. Crider soils are examples of soils in which translocated silicate clays have accumulated in the Bt horizon in the form of clay films. Gleying, or the reduction and transfer of iron, has occurred in all of the very poorly drained to somewhat poorly drained soils in the county. In these naturally wet soils, this process has had a significant effect on horizon differentiation. A gray subsoil indicates the reduction of iron oxides. This reduction is commonly accompanied by some transfer of the iron from the upper horizons to the lower ones or completely out of the profile. The redoximorphic concentrations in some horizons indicate the segregation of iron. Laconia soils show examples of this process.

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Glossary

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal-unit-month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy, or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
Blowout. A shallow depression from which all or most of the soil material has been removed by wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts wet soil is exposed.
Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.
Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
Canopy. The leafy crown of trees or shrubs. (See Crown.)
Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.
Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
Chemical treatment. Control of unwanted vegetation through the use of chemicals.
Chiseling. Tillage with an implement having one or more soil-penetrating points that loosen the subsoil and bring clods to the surface.
Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
Climax plant community. The plant community on a given site that will be established if present environmental conditions continue to prevail and the site is properly managed.
Coarse textured soil. Sand or loamy sand.
Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that is 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material is 35 to 60 percent of these rock fragments, and extremely cobbly soil material is more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. Any tillage and planting system in which a cover of crop residue is maintained on at least 30 percent of the surface after planting in order to reduce the hazard of water erosion; in areas where wind erosion is the primary concern, a system that maintains a cover of at least 1,000 pounds of flat residue of small grain or its equivalent during the critical erosion period.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping (or contour farming). Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

Depth, soil. The thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Disintegration moraine. A drift topography characterized by chaotic mounds and pits, generally randomly oriented, developed in supraglacial drift by collapse and flow as the underlying stagnant ice melted. Slopes may be steep and unstable. Abrupt changes between materials of differing lithology are common.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—These soils have very high and high hydraulic conductivity and a low water-holding capacity. They are not suited to crop production unless irrigated.

Somewhat excessively drained.—These soils have high hydraulic conductivity and a low water-holding capacity. Without irrigation, only a narrow range of crops can be grown and yields are low.

Well drained.—These soils have an intermediate or high water-holding capacity. They retain optimum amounts of moisture, but they are not wet close enough to the surface or long enough during the growing season to adversely affect yields.

Moderately well drained.—These soils are wet close enough to the surface or long enough that planting or harvesting operations or yields of most field crops are

affected. Moderately well drained soils commonly have a layer with low hydraulic conductivity, a wet layer relatively high in the profile, additions of water by seepage, or some combination of these.

Somewhat poorly drained.—These soils are wet close enough to the surface or long enough that planting or harvesting operations or crop growth is markedly restricted under natural conditions. Somewhat poorly drained soils commonly have a layer with low hydraulic conductivity, a wet layer high in the profile, additions of water through seepage, or a combination of these.

Poorly drained.—These soils commonly are so wet at or near the surface during a considerable part of the year that field crops cannot be grown under natural conditions. Poor drainage is caused by a saturated zone, a layer with low hydraulic conductivity, seepage, or a combination of these.

Very poorly drained.—These soils are wet to the surface most of the time. The wetness prevents the growth of important crops (except for rice) under natural conditions.

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. Relatively small, linear depressions that, at some time, move concentrated water and either lack a defined channel or have a small, defined channel.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposits. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above a zone in which the soil moisture status is wet at all times.

Episaturation. A type of saturation indicating a perched zone in which the soil moilsture status is wet in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general

continuity of more gently sloping land surfaces and resulting from erosion or faulting. The term is more often applied to cliffs resulting from differential erosion.

Esker. A long, narrow, sinuous, steep-sided ridge composed of irregularly stratified sand and gravel that were deposited by a subsurface stream flowing between ice walls or through ice tunnels of a retreating glacier and that were left behind when the ice melted. Eskers range from less than 1 mile to more than 100 miles in length and from 10 to 100 feet in height.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called normal field capacity, normal moisture capacity, or capillary capacity.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of fire fighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that is, by volume, 15 to 35 percent flagstones. Very flaggy soil material is 35 to 60 percent flagstones, and extremely flaggy soil material is more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is generally a constructional landform consisting of sediment deposited during overflow and lateral migration of the stream.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain

Flood plain step. An essentially flat, alluvial surface within a valley that is covered by flood water from the present stream; any approximately horizontal surface actively modified by scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Geomorphology. The science that treats the general configuration of the earth's surface; specifically the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures, and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of underlying material below the top of where the soil moisture status is wet.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Herbaceous peat. An accumulation of organic material, decomposed to some degree, that is predominantly the remains of sedges, reeds, cattails, and other herbaceous plants.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 6 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a zone with wet soil moisture status high in the profile on a permanent basis, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Ice-walled lake plain. A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the

lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface

Iron concentrations. High-chroma zones having a high content of iron and manganese oxide because of chemical oxidation and accumulation, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic concentration.

Iron depletions. Low-chroma zones having a low content of iron and manganese

oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the zone with wet soil moisture status is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame. A moundlike hill of glacial drift, composed chiefly of stratified sand and gravel.

Kame moraine. An end moraine that contains numerous kames. A group of kames along the front of a stagnant glacier, commonly comprising the slumped remnants of a formerly continuous outwash plain built up over the foot of rapidly wasting or stagnant ice.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake bed. The bottom of a lake; a lake basin.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lakeshore. A narrow strip of land in contact with or bordering a lake; especially the beach of a lake.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lamella. A thin (commonly less than 1 cm thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly. (See Slippage.)

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture

content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$-bar or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine-grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mine spoil (or earthy fill). An accumulation of displaced earthy material, rock, or other waste removed during mining or excavation.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high

base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. An accumulation of glacial drift in a topographic landform resulting chiefly from the direct action of glacial ice. Some types are lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat. Unconsolidated soil material consisting primarily of organic matter that is in an intermediate stage of decomposition such that a significant part of the material can be recognized and a significant part of the material cannot be recognized.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or

beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive area of glaciofluvial material that was deposited by meltwater streams.

Paleosol. A soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was either altered because of external environmental change or interrupted by burial. A paleosol (or component horizon) may be classed as relict if it persisted in a land-surface position without major alteration of morphology by processes of the pedogenic environment. An exhumed paleosol is one that formerly was buried and has been re-exposed by erosion of the covering mantle. Most paleosols have been affected by subsequent modification of diagnostic horizon morphologies and profile truncation.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, hardpan, fragipan, claypan, plowpan, and traffic pan.

Pararock fragments. Fragments of paralithic materials, having a diameter of 2 millimeters or more; for example, parachanners and paraflagstones.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher-lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse-grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Burning an area under conditions of weather and soil moisture and at the time of day that will result in the intensity of heat and spread required to accomplish specific forest management, wildlife, grazing, or fire hazard reduction purposes.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed.

These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides and include nodules and concretions, masses, and pore linings. *Nodules and concretions* are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure. *Masses* are noncemented concentrations of substances within the soil matrix. *Pore linings* are zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out. They include iron depletions and clay depletions. *Iron depletions* are zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix. *Clay depletions* are zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface

runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sawtimber. Hardwood trees more than 11 inches and conifers more than 9 inches in diameter at breast height.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrub-coppice dune. A small, streamlined dune that forms around brush and clump vegetation.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height

attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slippage. Soil slippage is a mass movement of soil that happens when the vegetation is removed and soil water is at or near saturation or when the slope is undercut.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Level	0 to 1 percent
Nearly level	0 to 3 percent
Very gently sloping	1 to 3 percent
Gently sloping	2 to 6 percent
Moderately sloping	6 to 12 percent
Strongly sloping	12 to 18 percent
Moderately steep	18 to 25 percent
Steep	25 to 35 percent
Very steep	35 percent and higher

Classes for complex slopes are as follows:

Level	0 to 1 percent
Nearly level	0 to 3 percent
Gently undulating	1 to 4 percent
Undulating	1 to 8 percent
Gently rolling	4 to 10 percent
Rolling	4 to 16 percent
Hilly	10 to 30 percent
Steep	20 to 60 percent
Very steep	45 percent and higher

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the substratum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of rock fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace, formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are: *platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular.* Structureless soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsidence. The potential decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semi-fluid, mineral layers. Subsidence, as a result of drainage, is attributed to (1) shrinkage from drying, (2) consolidation because of the loss of ground-water buoyancy, (3) compaction from tillage or manipulation, (4) wind erosion, (5) burning, and (6) biochemical oxidation.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter or loosen a layer that restricts roots.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Swale. A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine due to uneven glacial deposition.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances. It commonly is a massive, arcuate ridge or complex of ridges underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field is generally built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Till plain. An extensive area of nearly level to undulating or gently sloping soils that are underlain by till or consist of till. Slopes are 0 to 6 percent.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at

or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse-grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Woody peat. An accumulation of organic material that is predominantly composed of trees, shrubs, and other woody plants.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1961-90 at Salem, Indiana)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temp. higher than--	Minimum temp. lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	39.0	20.7	29.9	65	-14	41	2.95	1.38	4.29	5	6.1
February-	43.7	23.1	33.4	70	-10	58	2.96	1.26	4.41	6	6.0
March----	55.6	33.5	44.5	80	7	217	4.86	2.59	6.85	8	3.4
April----	66.9	42.7	54.8	85	22	450	4.33	2.40	6.04	8	0.3
May------	75.7	51.3	63.5	90	31	729	4.71	2.66	6.53	8	0.0
June-----	84.3	60.3	72.3	95	42	969	3.68	1.93	5.22	6	0.0
July-----	86.9	64.2	75.6	98	48	1,103	5.04	3.07	6.81	7	0.0
August---	85.7	62.0	73.8	97	46	1,049	3.34	1.92	4.61	5	0.0
September	80.1	55.8	67.9	93	35	838	2.83	1.55	3.96	5	0.0
October--	68.8	43.9	56.4	86	22	510	3.01	1.42	4.37	5	0.1
November-	55.5	35.6	45.6	77	13	219	3.88	2.29	5.31	7	1.1
December-	43.7	26.2	34.9	68	-3	78	3.69	2.17	5.04	7	2.8
Yearly:											
Average	65.5	43.3	54.4	---	---	---	---	---	---	---	---
Extreme	103	-25	---	99	-15	---	---	---	---	---	---
Total--	---	---	---	---	---	6,260	45.29	37.63	50.31	77	19.7

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at Salem, Indiana)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 11	Apr. 28	May 12
2 years in 10 later than--	Apr. 6	Apr. 23	May 6
5 years in 10 later than--	Mar. 28	Apr. 13	Apr. 25
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 20	Oct. 8	Sept. 30
2 years in 10 earlier than--	Oct. 24	Oct. 13	Oct. 4
5 years in 10 earlier than-	Nov. 2	Oct. 24	Oct. 11

Table 3.—Growing Season

(Recorded in the period 1961-90 at Salem, Indiana)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	198	175	148
8 years in 10	205	181	155
5 years in 10	218	193	168
2 years in 10	231	204	181
1 year in 10	238	210	188

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AeoB2	Alford silt loam, 2 to 6 percent slopes, eroded	118	*
AeoC2	Alford silt loam, 6 to 12 percent slopes, eroded	112	*
AgzB	Apalona-Zanesville silt loams, 2 to 6 percent slopes	3,387	1.1
BbhA	Bartle silt loam, 0 to 2 percent slopes	209	*
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	438	0.1
BdoA	Bedford silt loam, 0 to 2 percent slopes	1,869	0.6
BdoB	Bedford silt loam, 2 to 6 percent slopes	15,619	5.0
BkeC2	Bloomfield-Alvin complex, 6 to 15 percent slopes, eroded	265	*
BuoA	Bromer silt loam, 0 to 2 percent slopes	670	0.2
BvsG	Brussels-Rock outcrop complex, 35 to 90 percent slopes, rubbly	4,786	1.5
CbrD2	Caneyville-Haggatt-Knobcreek silt loams, karst, hilly, eroded	5,308	1.7
CbsD3	Caneyville-Haggatt-Knobcreek complex, karst, hilly, severely eroded	11,347	3.6
CbxD4	Caneyville-Haggatt silty clay loams, karst, rolling, very severely eroded, very rocky	1,210	0.4
CcaG	Caneyville-Rock outcrop complex, 25 to 60 percent slopes	25,347	8.1
CtaB	Crider silt loam, karst, undulating	27,029	8.7
CteC2	Crider-Vertrees silt loams, karst, rolling, eroded	15,427	5.0
CtwB	Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes	1,727	0.6
DeaC2	Deuchars-Apalona-Wellston silt loams, 6 to 12 percent slopes, eroded	2,354	0.8
DeaC3	Deuchars-Apalona-Wellston silt loams, 6 to 12 percent slopes, severely eroded	2,854	0.9
EbhD2	Ebal-Gilpin-Wellston silt loams, 10 to 22 percent slopes, eroded	4,107	1.3
EbhD3	Ebal-Gilpin-Wellston silt loams, 10 to 22 percent slopes, severely eroded	2,144	0.7
EepA	Elkinsville silt loam, 0 to 2 percent slopes	279	*
EepB2	Elkinsville silt loam, 2 to 6 percent slopes, eroded	1,039	0.3
EepC2	Elkinsville silt loam, 6 to 12 percent slopes, eroded	472	0.2
EepGQ	Elkinsville silt loam, 25 to 60 percent slopes, rarely flooded	1	*
EesA	Elkinsville-Millstone complex, 0 to 2 percent slopes	214	*
EesB	Elkinsville-Millstone complex, 2 to 6 percent slopes	481	0.2
EesC2	Elkinsville-Millstone complex, 6 to 12 percent slopes, eroded	456	0.1
EesFQ	Elkinsville-Millstone complex, 18 to 40 percent slopes, rarely flooded	681	0.2
GacAW	Gatchel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	2	*
GbgB2	Gatton silt loam, 2 to 6 percent slopes, eroded	981	0.3
GbgC2	Gatton silt loam, 6 to 12 percent slopes, eroded	501	0.2
GbgC3	Gatton silt loam, 6 to 12 percent slopes, severely eroded	590	0.2
GfcF	Gilpin-Tipsaw-Ebal complex, 18 to 35 percent slopes, stony	7,798	2.5
GgbG	Gilwood-Brownstown silt loams, 25 to 75 percent slopes	1,459	0.5
GmaG	Gnawbone-Kurtz silt loams, 20 to 60 percent slopes	28	*
HcaA	Hatfield silt loam, 0 to 2 percent slopes	177	*
HcgAH	Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	2,241	0.7
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	1,015	0.3
HcpAP	Haymond silt loam, depression, 0 to 2 percent slopes, frequently ponded, very brief duration	5,802	1.9

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
HufAH	Huntington silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	859	0.3
HufAK	Huntington silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	1,667	0.5
JoaA	Johnsburg silt loam, 0 to 2 percent slopes	94	*
KunAW	Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	7,014	2.3
KxkC2	Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded	746	0.2
KxlC3	Knobcreek-Haggatt-Caneyville complex, 6 to 12 percent slopes, severely eroded	1,478	0.5
KxlE3	Knobcreek-Haggatt-Caneyville complex, 12 to 25 percent slopes, severely eroded	1,785	0.6
KxmE2	Knobcreek-Haggatt-Caneyville silt loams, 12 to 25 percent slopes, eroded	1,329	0.4
KxoC2	Knobcreek-Navilleton-Haggatt silt loams, karst, rolling, eroded	5,309	1.7
KxpD2	Knobcreek-Haggatt-Caneyville silt loams, karst, hilly, eroded	6,095	2.0
KxrC3	Knobcreek-Navilleton-Haggatt complex, karst, rolling, severely eroded	9,764	3.1
KxsD3	Knobcreek-Haggatt-Caneyville complex, karst, hilly, severely eroded	7,300	2.3
KxtC2	Knobcreek-Haggatt-Caneyville silt loams, karst, rolling, eroded	2,184	0.7
KxtC3	Knobcreek-Haggatt-Caneyville complex, karst, rolling, severely eroded	5,839	1.9
LaaA	Laconia silt loam, 0 to 1 percent slopes	4,892	1.6
LpoAK	Lindside silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	754	0.2
LpoAQ	Lindside silt loam, 0 to 2 percent slopes, rarely flooded	256	*
McnGQ	Markland silt loam, 18 to 50 percent slopes, rarely flooded	280	*
MdlD2	Markland silt loam, 6 to 18 percent slopes, eroded	256	*
MdwD3	Markland silty clay loam, 6 to 18 percent slopes, severely eroded	285	*
MhuA	McGary silt loam, 0 to 2 percent slopes	131	*
NbhAK	Newark silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	268	*
NbhAQ	Newark silt loam, 0 to 2 percent slopes, rarely flooded	759	0.2
NprAQ	Nolin silt loam, 0 to 2 percent slopes, rarely flooded	723	0.2
Omz	Orthents, earthen dam	9	*
PcrA	Pekin silt loam, 0 to 2 percent slopes	501	0.2
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded	377	0.1
PhwB2	Percell silt loam, 2 to 6 percent slopes, eroded	271	*
Pml	Pits, quarry	801	0.3
Ppu	Pits, sand and gravel	133	*
RmcE	Riney loam, 12 to 35 percent slopes	1,225	0.4
ScbA	Sciotoville silt loam, 0 to 2 percent slopes	397	0.1
ScbB2	Sciotoville silt loam, 2 to 6 percent slopes, eroded	555	0.2
SfyB	Shircliff silt loam, 0 to 2 percent slopes	2	*
Uaa	Udorthents, cut and filled	1,144	0.4
UekAQ	Urban land-Elkinsville-Haymond complex, 0 to 6 percent slopes, rarely flooded	357	0.1
UflC	Urban land-Crider-Vertrees complex, karst, rolling	2,426	0.8
UnsB	Urban land-Udarents, clayey substratum complex, hills, 2 to 12 percent slopes	597	0.2
Usl	Udorthents, rubbish	33	*
VcaC3	Vertrees-Crider-Caneyville complex, karst, rolling, severely eroded	31,799	10.2
VcbD2	Vertrees-Crider-Caneyville silt loams, karst, hilly, eroded	18,027	5.8

See footnote at end of table.

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
VccD3	Vertrees-Haggatt-Caneyville complex, karst, hilly, severely eroded	37,664	12.1
W	Water	2,628	0.8
WbkAP	Wilbur-Newark silt loams, depression, 0 to 2 percent slopes, frequently ponded, very brief duration	1,088	0.3
WycAQ	Woodmere silt loam, 0 to 3 percent slopes, rarely flooded	408	0.1
	Total	311,053	100.0

* Less than 0.1 percent.

Table 5.—Main Cropland and Pastureland Limitations and Hazards

(See text for a description of the limitations and hazards listed in this table)

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
AeoB2:		
Alford	Low pH, crusting, water erosion.	Low pH, water erosion.
AeoC2:		
Alford	Low pH, crusting, water erosion.	Low pH, water erosion.
AgzB:		
Apalona	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Zanesville	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
BbhA:		
Bartle	Wetness, low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability limitation, low pH.
BcrAW:		
Beanblossom	Flooding, low pH, crusting, moderate available water capacity.	Flooding, low pH.
BdoA:		
Bedford	Limited rooting depth (fragipan), low pH, crusting, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH.
BdoB:		
Bedford	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
BkeC2:		
Bloomfield	Equipment limitation (slope), low pH, wind erosion, low available water capacity.	Equipment limitation (slope), low pH, wind erosion, low available water capacity.
Alvin	Equipment limitation (slope), low pH, water erosion, wind erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion, wind erosion.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
BuoA:		
Bromer	Wetness, limited rooting depth (fragipan), low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability limitation, limited rooting depth (fragipan), low pH.
BvsG:		
Brussels	Equipment limitation (slope), equipment limitation (rock fragments in the surface layer), high pH, water erosion, low available water capacity.	Equipment limitation (slope), equipment limitation (rock fragments in the surface layer), high pH, water erosion, low available water capacity.
Rock outcrop	Areas of rock outcrop.	Areas of rock outcrop.
CbrD2:		
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Knobcreek	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
CbsD3:		
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Knobcreek	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
CbxD4:		
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
CcaG:		
Caneyville	Equipment limitation (slope), low pH, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Rock outcrop	Areas of rock outcrop.	Areas of rock outcrop.
CtaB:		
Crider	Low pH, crusting, water erosion.	Low pH, water erosion.
CteC2:		
Crider	Low pH, crusting, water erosion.	Low pH, water erosion.
Vertrees	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
CtwB:		
Crider	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
Bedford	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Navilleton	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
DeaC2:		
Deuchars	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Apalona	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Wellston	Low pH, crusting, water erosion, moderate available water capacity, .	Low pH, water erosion.
DeaC3:		
Deuchars	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Apalona	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
DeaC3:		
Wellston	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
EbhD2:		
Ebal	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Gilpin	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Wellston	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
EbhD3:		
Ebal	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Gilpin	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Wellston	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
EepA:		
Elkinsville	Low pH, crusting.	Low pH.
EepB2:		
Elkinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
EepC2:		
Elkinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
EepGQ:		
Elkinsville	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
EesA:		
Elkinsville	Low pH, crusting.	Low pH.
Millstone	Low pH, crusting.	Low pH.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
EesB:		
Elkinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
Millstone	Low pH, crusting, water erosion.	Low pH, water erosion.
EesC2:		
Elkinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
Millstone	Low pH, crusting, water erosion.	Low pH, water erosion.
EesFQ:		
Elkinsville	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
Millstone	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
GacAW:		
Gatchel	Flooding, low pH, moderate available water capacity.	Flooding, low pH.
GbgB2:		
Gatton	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
GbgC2:		
Gatton	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
GbgC3:		
Gatton	Wetness, limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
GfcF:		
Gilpin	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Tipsaw	Equipment limitation (slope), low pH, water erosion, wind erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, wind erosion, low available water capacity.
Ebal	Equipment limitation (slope), low pH, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
GgbG:		
Gilwood	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Brownstown	Equipment limitation (slope), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
GmaG:		
Gnawbone	Equipment limitation (slope), low pH, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Kurtz	Equipment limitation (slope), low pH, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
HcaA:		
Hatfield	Wetness, low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability limitation, low pH.
HcgAH:		
Haymond	Flooding, low pH, crusting.	Flooding, low pH.
HcgAW:		
Haymond	Flooding, low pH, crusting.	Flooding, low pH.
HcpAP:		
Haymond	Ponding, low pH, crusting.	Ponding, low pH.
HufAH:		
Huntington	Flooding, low pH.	Flooding, low pH.
HufAK:		
Huntington	Flooding, low pH.	Flooding, low pH.
JoaA:		
Johnsburg	Wetness, low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability limitation, low pH.
KunAW:		
Kintner	Flooding, high pH, crusting, moderate available water capacity.	Flooding, high pH.
KxkC2:		
Knobcreek	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Navilleton	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
KxlC3:		
Knobcreek	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Haggatt	Low pH, crusting, water erosion, low available water capacity.	Low pH, water erosion, low available water capacity.
Caneyville	Low pH, crusting, water erosion, low available water capacity.	Low pH, water erosion, low available water capacity.
KxlE3:		
Knobcreek	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
KxmE2:		
Knobcreek	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
KxoC2:		
Knobcreek	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Navilleton	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Haggatt	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
KxpD2:		
Knobcreek	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
KxrC3:		
Knobcreek	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Navilleton	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Haggatt	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
KxsD3:		
Knobcreek	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
KxtC2:		
Knobcreek	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Haggatt	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
Caneyville	Low pH, crusting, water erosion, low available water capacity.	Low pH, water erosion, low available water capacity.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
KxtC3:		
Knobcreek	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Haggatt	Low pH, crusting, water erosion, low available water capacity.	Low pH, water erosion, low available water capacity.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
LaaA:		
Laconia	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability limitation, low pH.
LpoAK:		
Lindside	Flooding, low pH, crusting.	Flooding, low pH.
LpoAQ:		
Lindside	Low pH, crusting.	Low pH.
McnGQ:		
Markland	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
MdlD2:		
Markland	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
MdwD3:		
Markland	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
MhuA:		
McGary	Wetness, low pH, crusting.	Trafficability limitation, low pH.
NbhAK:		
Newark	Flooding, wetness, low pH, crusting.	Flooding, trafficability limitation, low pH.
NbhAQ:		
Newark	Wetness, low pH, crusting, restricted permeability.	Trafficability limitation, low pH.
NprAQ:		
Nolin	Low pH, crusting.	Low pH.
Omz:		
Orthents	Not rated.	Not rated.
PcrA:		
Pekin	Low pH, crusting, moderate available water capacity, restricted permeability.	Low pH.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
PcrB2:		
Pekin	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
PhwB2:		
Percell	Low pH, crusting, water erosion.	Low pH, water erosion.
Pml:		
Pits, quarry	Not rated.	Not rated.
Ppu:		
Pits, sand and gravel	Not rated.	Not rated.
RmcE:		
Riney	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
ScbA:		
Sciotoville	Low pH, crusting, moderate available water capacity, restricted permeability.	Low pH.
ScbB2:		
Sciotoville	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
SfyB:		
Shircliff	Low pH, crusting, water erosion.	Low pH, water erosion.
Uaa:		
Udorthents	Not rated.	Not rated.
UekAQ:		
Urban land	Built up land.	Built up land.
Elkinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
Haymond	Low pH, crusting.	Low pH.
UflC:		
Urban land	Built up land.	Built up land.
Crider	Low pH, crusting, water erosion.	Low pH, water erosion.
Vertrees	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
UnsB:		
Urban land	Built up land.	Built up land.
Udarents	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
Usl:		
Udorthents	Not rated.	Not rated.
VcaC3:		
Vertrees	Equipment limitation (slope), equipment limitation (rock fragments in the surface layer), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), equipment limitation (rock fragments in the surface layer), low pH, water erosion.
Crider	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
VcbD2:		
Vertrees	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Crider	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
VccD3:		
Vertrees	Equipment limitation (slope), equipment limitation (rock fragments in the surface layer), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), equipment limitation (rock fragments in the surface layer), low pH, water erosion.
Haggatt	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
Caneyville	Equipment limitation (slope), low pH, crusting, water erosion, low available water capacity.	Equipment limitation (slope), low pH, water erosion, low available water capacity.
W:		
Water	Water.	Water.
WbkAP:		
Wilbur	Ponding, low pH, crusting.	Ponding, low pH.
Newark	Ponding, wetness, low pH, crusting.	Ponding, trafficability limitation, low pH.

Table 5.—Main Cropland and Pastureland Limitations and Hazards—Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
WycAQ:		
Woodmere	This soil is well suited to cropland.	This soil is well suited to pastureland.

Table 6.—Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Grass-legume hay	Pasture	Soybeans	Winter wheat
		Bu	Tons	AUM	Bu	Bu
AeoB2---------------- Alford	2e	115.00	3.80	7.60	40.00	46.00
AeoC2---------------- Alford	3e	105.00	3.50	7.00	37.00	42.00
AgzB----------------- Apalona-Zanesville	2e	100.00	3.30	6.60	35.00	45.00
BbhA----------------- Bartle	2w	120.00	4.00	8.00	42.00	48.00
BcrAW---------------- Beanblossom	2w	85.00	2.80	5.60	30.00	30.00
BdoA----------------- Bedford	2w	100.00	3.30	6.60	35.00	45.00
BdoB----------------- Bedford	2e	100.00	3.30	6.60	35.00	45.00
BkeC2---------------- Bloomfield-Alvin	3e	50.00	1.70	3.40	18.00	20.00
BuoA----------------- Bromer	2w	120.00	4.00	8.00	42.00	48.00
BvsG----------------- Brussels- Rock outcrop	7e	0.00	0.00	0.00	0.00	0.00
CbrD2---------------- Caneyville-Haggatt- Knobcreek	6e	50.00	1.70	3.40	18.00	23.00
CbsD3---------------- Caneyville-Haggatt- Knobcreek	6e	40.00	1.30	2.60	14.00	18.00
CbxD4---------------- Caneyville-Haggatt	6e	0.00	0.00	0.00	0.00	0.00
CcaG----------------- Caneyville- Rock outcrop	7e	0.00	0.00	0.00	0.00	0.00
CtaB----------------- Crider	2e	110.00	3.60	7.20	39.00	44.00
CteC2---------------- Crider-Vertrees	3e	85.00	2.80	5.60	30.00	34.00
CtwB----------------- Crider-Bedford- Navilleton	2e	110.00	3.60	7.20	39.00	44.00

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Grass-legume hay	Pasture	Soybeans	Winter wheat
		Bu	Tons	AUM	Bu	Bu
DeaC2---------------- Deuchars-Wellston-Apalona	3e	90.00	3.00	6.00	32.00	36.00
DeaC3---------------- Deuchars-Wellston-Apalona	4e	85.00	2.80	5.60	30.00	34.00
EbhD2---------------- Ebal-Wellston-Gilpin	4e	60.00	2.00	4.00	21.00	27.00
EbhD3---------------- Ebal-Gilpin-Wellston	6e	55.00	1.80	3.60	19.00	25.00
EepA----------------- Elkinsville	1	115.00	3.80	7.60	40.00	46.00
EepB2---------------- Elkinsville	2e	110.00	3.60	7.20	39.00	44.00
EepC2---------------- Elkinsville	3e	100.00	3.30	6.60	35.00	40.00
EepGQ---------------- Elkinsville	7e	0.00	0.00	0.00	0.00	0.00
EesA----------------- Elkinsville-Millstone	1	110.00	3.60	7.20	39.00	44.00
EesB----------------- Elkinsville-Millstone	2e	110.00	3.60	7.20	39.00	44.00
EesC2---------------- Elkinsville-Millstone	3e	95.00	3.10	6.20	33.00	38.00
EesFQ---------------- Elkinsville-Millstone	7e	0.00	0.00	0.00	0.00	0.00
GacAW---------------- Gatchel	3w	85.00	2.80	5.60	30.00	30.00
GbgB2---------------- Gatton	2e	85.00	2.80	5.60	30.00	38.00
GbgC2---------------- Gatton	3e	86.00	2.80	5.60	30.00	39.00
GbgC3---------------- Gatton	4e	80.00	2.60	5.20	28.00	36.00
GfcF----------------- Gilpin-Tipsaw-Ebal	7e	0.00	0.00	0.00	0.00	0.00
GgbG----------------- Gilwood-Brownstown	7e	0.00	0.00	0.00	0.00	0.00

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Grass-legume hay	Pasture	Soybeans	Winter wheat
		Bu	Tons	AUM	Bu	Bu
GmaG----------------- Gnawbone-Kurtz	7e	0.00	0.00	0.00	0.00	0.00
HcaA----------------- Hatfield	2w	120.00	4.00	8.00	42.00	48.00
HcgAH---------------- Haymond	2w	115.00	0.00	0.00	40.00	0.00
HcgAW---------------- Haymond	2w	115.00	3.80	7.60	40.00	40.00
HcpAP---------------- Haymond	3w	120.00	4.00	8.00	42.00	0.00
HufAH---------------- Huntington	2w	135.00	0.00	0.00	47.00	0.00
HufAK---------------- Huntington	2w	140.00	4.60	9.20	49.00	49.00
JoaA----------------- Johnsburg	2w	125.00	4.10	8.20	44.00	50.00
KunAW---------------- Kintner	2w	85.00	2.80	5.60	30.00	30.00
KxkC2---------------- Knobcreek-Navilleton	3e	85.00	2.80	5.60	30.00	38.00
KxlC3---------------- Knobcreek-Haggatt- Caneyville	4e	60.00	2.00	4.00	21.00	27.00
KxlE3---------------- Knobcreek-Haggatt- Caneyville	6e	40.00	1.30	2.60	14.00	18.00
KxmE2---------------- Knobcreek-Haggatt- Caneyville	4e	50.00	1.70	3.40	18.00	23.00
KxoC2---------------- Knobcreek- Navilleton-Haggatt	3e	80.00	2.60	5.20	28.00	36.00
KxpD2---------------- Knobcreek-Haggatt- Caneyville	4e	50.00	1.70	3.40	18.00	23.00
KxrC3---------------- Knobcreek- Navilleton-Haggatt	4e	75.00	2.50	5.00	26.00	34.00
KxsD3---------------- Knobcreek-Haggatt- Caneyville	6e	40.00	1.30	2.60	14.00	18.00
KxtC2---------------- Knobcreek-Haggatt- Caneyville	3e	75.00	2.50	5.00	26.00	34.00

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Grass-legume hay	Pasture	Soybeans	Winter wheat
		Bu	Tons	AUM	Bu	Bu
KxtC3----------------- Knobcreek-Haggatt-Caneyville	4e	65.00	2.10	4.20	23.00	29.00
LaaA----------------- Laconia	3w	135.00	4.50	9.00	47.00	0.00
LpoAK---------------- Lindside	2w	125.00	4.10	8.20	44.00	44.00
LpoAQ---------------- Lindside	1	125.00	4.10	8.20	44.00	50.00
McnGQ---------------- Markland	7e	0.00	0.00	0.00	0.00	0.00
MdlD2---------------- Markland	6e	58.00	1.70	3.40	20.00	26.00
MdwD3---------------- Markland	7e	50.00	1.70	3.40	18.00	23.00
MhuA----------------- McGary	3w	100.00	3.30	6.60	35.00	45.00
NbhAK---------------- Newark	2w	135.00	4.50	9.00	47.00	47.00
NbhAQ---------------- Newark	2w	140.00	4.60	9.20	49.00	56.00
NprAQ---------------- Nolin	1	125.00	4.10	8.20	44.00	50.00
Omz. Orthents						
PcrA----------------- Pekin	2s	105.00	3.50	7.00	37.00	42.00
PcrB2---------------- Pekin	2e	100.00	3.30	6.60	35.00	40.00
PhwB2---------------- Percell	2e	115.00	3.80	7.60	40.00	46.00
Pml. Pits, quarry						
Ppu. Pits, sand and gravel						
RmcE----------------- Riney	6e	65.00	2.10	4.20	23.00	26.00
ScbA----------------- Sciotoville	2w	110.00	3.60	7.20	39.00	44.00
ScbB2---------------- Sciotoville	2e	105.00	3.50	7.00	37.00	42.00

Table 6.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Grass-legume hay	Pasture	Soybeans	Winter wheat
		Bu	Tons	AUM	Bu	Bu
SfyB-----------------Shircliff	3e	90.00	3.00	6.00	32.00	36.00
Uaa. Udorthents						
UekAQ----------------Urban land-Elkinsville-Haymond	8	0.00	0.00	0.00	0.00	0.00
UflC-----------------Urban land-Crider-Vertrees	8	0.00	0.00	0.00	0.00	0.00
UnsB-----------------Urban land-Udarents	8	0.00	0.00	0.00	0.00	0.00
Usl. Udorthents						
VcaC3----------------Vertrees-Crider-Caneyville	4e	65.00	2.10	4.20	23.00	29.00
VcbD2----------------Vertrees-Crider-Caneyville	4e	60.00	2.00	4.00	21.00	27.00
VccD3----------------Vertrees-Haggatt-Caneyville	6e	40.00	1.30	2.60	14.00	18.00
W. Water						
WbkAP----------------Wilbur-Newark	2w	130.00	4.30	8.60	46.00	0.00
WycAQ----------------Woodmere	2w	130.00	4.30	8.60	46.00	52.00

Table 7.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in the third column)

Map symbol	Map unit name	Prime farmland conditions
AeoB2	Alford silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
AgzB	Apalona-Zanesville silt loams, 2 to 6 percent slopes	All areas are prime farmland
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	All areas are prime farmland
BdoA	Bedford silt loam, 0 to 2 percent slopes	All areas are prime farmland
BdoB	Bedford silt loam, 2 to 6 percent slopes	All areas are prime farmland
CtaB	Crider silt loam, karst, undulating	All areas are prime farmland
CtwB	Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes	All areas are prime farmland
EepA	Elkinsville silt loam, 0 to 2 percent slopes	All areas are prime farmland
EepB2	Elkinsville silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
EesA	Elkinsville-Millstone complex, 0 to 2 percent slopes	All areas are prime farmland
EesB	Elkinsville-Millstone complex, 2 to 6 percent slopes	All areas are prime farmland
GacAW	Gatchel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	All areas are prime farmland
GbgB2	Gatton silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	All areas are prime farmland
HufAK	Huntington silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	All areas are prime farmland
KunAW	Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	All areas are prime farmland
LpoAK	Lindside silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	All areas are prime farmland
LpoAQ	Lindside silt loam, 0 to 2 percent slopes, rarely flooded	All areas are prime farmland
NprAQ	Nolin silt loam, 0 to 2 percent slopes, rarely flooded	All areas are prime farmland
PcrA	Pekin silt loam, 0 to 2 percent slopes	All areas are prime farmland
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
PhwB2	Percell silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
ScbA	Sciotoville silt loam, 0 to 2 percent slopes	All areas are prime farmland
ScbB2	Sciotoville silt loam, 2 to 6 percent slopes, eroded	All areas are prime farmland
SfyB	Shircliff silt loam, 0 to 2 percent slopes	All areas are prime farmland
WycAQ	Woodmere silt loam, 0 to 3 percent slopes, rarely flooded	All areas are prime farmland
BbhA	Bartle silt loam, 0 to 2 percent slopes	Prime farmland if drained
BuoA	Bromer silt loam, 0 to 2 percent slopes	Prime farmland if drained
HcaA	Hatfield silt loam, 0 to 2 percent slopes	Prime farmland if drained
JoaA	Johnsburg silt loam, 0 to 2 percent slopes	Prime farmland if drained
LaaA	Laconia silt loam, 0 to 1 percent slopes	Prime farmland if drained
MhuA	McGary silt loam, 0 to 2 percent slopes	Prime farmland if drained
NbhAK	Newark silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	Prime farmland if drained
NbhAQ	Newark silt loam, 0 to 2 percent slopes, rarely flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Table 7.—Prime Farmland—Continued

Map symbol	Map unit name	Prime farmland conditions
HcgAH	Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	Prime farmland if protected from flooding or not frequently flooded during the growing season
HufAH	Huntington silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	Prime farmland if protected from flooding or not frequently flooded during the growing season

Table 8.—Windbreaks and Environmental Plantings

(Absence of an entry indicates that data was not estimated or that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
AeoB2:					
Alford	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
AeoC2:					
Alford	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
AgzB:					
Apalona	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Zanesville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
BbhA:					
Bartle------------	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, redosier dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
BcrAW:					
Beanblossom-------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, chinkapin oak, common hackberry, Norway spruce, shingle oak, swamp white oak.	Baldcypress, eastern cottonwood, red maple.
BdoA:					
Bedford-----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
BdoB:					
Bedford-----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
BkeC2:					
Bloomfield	American elder, gray dogwood, highbush cranberry, silky dogwood.	American hazelnut, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Black oak, bur oak, chinkapin oak, common hackberry, eastern cottonwood, eastern white pine, red maple, scarlet oak, shingle oak, white oak.	---
Alvin	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
BuoA:					
Bromer	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, redosier dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
BvsG:					
Brussels	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Rock outcrop.					

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
CbrD2:					
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Haggatt	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
CbsD3:					
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
CbsD3:					
Haggatt	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
CbxD4. Caneyville-Haggatt					
CcaG:					
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Rock outcrop.					
CtaB:					
Crider	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
CteC2:					
Crider	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Vertrees	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
CtwB:					
Crider	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Bedford	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
CtwB:					
Navilleton	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
DeaC2:					
Deuchars	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Apalona	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Wellston	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
DeaC3:					
Deuchars	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Apalona.					
Wellston	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
EbhD2:					
Ebal	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Gilpin	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
EbhD2:					
Wellston	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
EbhD3:					
Ebal	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Gilpin	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Wellston	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
EepA:					
Elkinsville-------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
EepB2:					
Elkinsville-------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
EepC2:					
Elkinsville-------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
EepGQ:					
Elkinsville-------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
EesA:					
Elkinsville	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Millstone	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
EesB:					
Elkinsville	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Millstone	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
EesC2:					
Elkinsville	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Millstone	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
EesFQ:					
Elkinsville	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Millstone	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
GacAW:					
Gatchel	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, chinkapin oak, common hackberry, Norway spruce, shingle oak, swamp white oak.	Baldcypress, eastern cottonwood, red maple.
GbgB2:					
Gatton	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
GbgC2:					
Gatton	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
GbgC3:					
Gatton	American elder, black chokeberry, gray dogwood, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple, sweetgum.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
GfcF:					
Gilpin-----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
Tipsaw-----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
Ebal-------------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
GgbG:					
Gilwood----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
GgbG:					
Brownstown--------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, chestnut oak, common persimmon, eastern redcedar, shagbark hickory, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, Norway spruce, shingle oak, white oak.	Baldcypress, eastern cottonwood, eastern white pine, red maple.
GmaG:					
Gnawbone----------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Kurtz-------------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
HcaA:					
Hatfield----------	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, redosier dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
HcgAH:					
Haymond	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
HcgAW:					
Haymond	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
HcpAP:					
Haymond	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
HufAH:					
Huntington--------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
HufAK:					
Huntington--------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
JoaA:					
Johnsburg---------	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, redosier dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, cockspur hawthorn, nannyberry, prairie crabapple, roughleaf dogwood.	American plum, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, shingle oak, Shumard's oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
KunAW:					
Kintner	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood, smooth sumac.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, chinkapin oak, common hackberry, Norway spruce, shingle oak, swamp white oak.	Baldcypress, eastern cottonwood, red maple.
KxkC2:					
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Navilleton	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
KxlC3:					
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
KxlC3:					
Haggatt----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Caneyville--------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
KxlE3:					
Knobcreek---------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Haggatt----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
KxlE3:					
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
KxmE2:					
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Haggatt	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
KxoC2:					
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Navilleton	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Haggatt	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
KxpD2:					
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
KxpD2:					
Haggatt	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
KxrC3:					
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Navilleton	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
KxrC3:					
Haggatt	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
KxsD3:					
Knobcreek	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Haggatt	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
KxtC2:					
Knobcreek---------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Haggatt-----------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Caneyville--------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
KxtC3:					
Knobcreek---------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
KxtC3:					
Haggatt	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
LaaA:					
Laconia	American elder, black chokeberry, common buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Nannyberry, roughleaf dogwood, speckled alder.	Balsam fir, hemlock, jack pine, shellbark hickory, sugar maple.	Blackgum, bur oak, pecan, swamp white oak.	Baldcypress, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
LpoAK:					
Lindside	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, common pawpaw, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac, wild sweet crab.	American plum, common persimmon, eastern redcedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
LpoAQ:					
Lindside	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
McnGQ:					
Markland	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
MdlD2:					
Markland	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
MdwD3:					
Markland	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
MhuA:					
McGary	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple, sweetgum.
NbhAK:					
Newark	American elder, black chokeberry, common buttonbush, highbush cranberry, ninebark, redosier dogwood, spicebush.	American hazelnut, American witchhazel, cockspur hawthorn, nannyberry, roughleaf dogwood.	American plum, arrowwood, common persimmon, eastern redcedar, prairie crabapple, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Baldcypress, cherrybark oak, eastern cottonwood, pin oak, red maple, river birch, silver maple, sweetgum.
NbhAQ:					
Newark	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple, sweetgum.
NprAQ:					
Nolin	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
Omz. Orthents					
PcrA:					
Pekin	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
PcrB2:					
Pekin	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
PhwB2:					
Percell	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Pml. Pits, quarry					
Ppu. Pits, sand and gravel					

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
RmcE:					
Riney	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
ScbA:					
Sciotoville	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
ScbB2:					
Sciotoville	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
SfyB:					
Shircliff	Black chokeberry, gray dogwood, ninebark, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Uaa.					
Udorthents					

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
UekAQ:					
Urban land.					
Elkinsville	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Haymond	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
UflC:					
Urban land.					
Crider	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Vertrees	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
UnsB:					
Urban land.					
Udarents----------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Usl.					
Udorthents					
VcaC3:					
Vertrees----------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Crider------------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Caneyville--------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
VcbD2:					
Vertrees	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.
Crider	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
VccD3:					
Vertrees	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, sugar maple, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, shingle oak, swamp chestnut oak, swamp white oak, white oak.	Baldcypress, cherrybark oak, eastern white pine, pin oak, sweetgum, tuliptree.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
VccD3:					
Haggatt	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
Caneyville	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, prairie crabapple, roughleaf dogwood.	American plum, chestnut oak, common persimmon, eastern redcedar, scarlet oak, shagbark hickory, shingle oak, Virginia pine, Washington hawthorn.	Black oak, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, white oak.	Baldcypress, eastern cottonwood, eastern white pine.
W. Water					
WbkAP:					
Wilbur	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.
Newark	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	American hazelnut, American witchhazel, arrowwood, blackhaw, cockspur hawthorn, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, speckled alder.	American plum, common persimmon, eastern redcedar, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, common hackberry, eastern white pine, Norway spruce, pecan, shingle oak, swamp chestnut oak, swamp white oak.	Cherrybark oak, eastern cottonwood, red maple, river birch, silver maple, sweetgum.

Table 8.—Windbreaks and Environmental Plantings—Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
WycAQ:					
Woodmere----------	Black chokeberry, gray dogwood, ninebark, silky dogwood, spicebush.	American hazelnut, American witchhazel, blackhaw, cockspur hawthorn, highbush blueberry.	American plum, common persimmon, eastern redcedar, shagbark hickory, Washington hawthorn.	Black cherry, black oak, black walnut, blackgum, bur oak, common hackberry, northern red oak, Norway spruce, pecan, shingle oak, swamp white oak, white oak.	Baldcypress, black cherry, cherrybark oak, eastern white pine, pin oak, swamp chestnut oak, sweetgum, tuliptree.

Table 9.—Forest Productivity

(Absence of an entry indicates that information was not available)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
AeoB2:				
Alford	tuliptree	98	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	white oak	90	72	
AeoC2:				
Alford	tuliptree	98	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	white oak	90	72	
AgzB:				
Apalona	white oak	60	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	black oak	60	43	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
AgzB:				
Zanesville	---	---	---	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
BbhA:				
Bartle	white oak	75	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	sweetgum	80	86	
	tuliptree	85	86	
BcrAW:				
Beanblossom	---	---	---	Baldcypress, bitternut hickory, blackgum, bur oak, eastern cottonwood, eastern redcedar, pin oak, red maple, river birch, shingle oak, swamp white oak.
BdoA:				
Bedford	northern red oak	75	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	sugar maple	75	43	
	tuliptree	90	86	
	white oak	70	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BdoB:				
Bedford	northern red oak	75	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	sugar maple	75	43	
	tuliptree	90	86	
	white oak	70	57	
BkeC2:				
Bloomfield	black oak	70	57	Black oak, bur oak, chestnut oak, chinkapin oak, eastern white pine, pignut hickory, scarlet oak, shagbark hickory, shingle oak, Virginia pine, white oak.
Alvin	northern red oak	80	57	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	tuliptree	90	86	
	white oak	80	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BuoA:				
Bromer	sweetgum	80	86	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	tuliptree	85	86	
	white oak	75	57	
BvsG:				
Brussels	northern red oak	65	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	60	43	
Rock outcrop.				
CbrD2:				
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	64	43	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CbrD2:				
Haggatt	tuliptree	86	86	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	68	57	
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
CbsD3:				
Caneyville	black oak	65	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	chinkapin oak	51	29	
	eastern redcedar	36	43	
	scarlet oak	53	43	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CbsD3:				
Haggatt	tuliptree	86	86	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	68	57	
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
CbxD4:				
Caneyville	black oak	71	57	---
	eastern redcedar	46	57	
	white oak	64	43	
Haggatt	tuliptree	86	86	---
	white oak	68	57	
CcaG:				
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	tuliptree	90	86	
	white oak	64	43	
Rock outcrop.				

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CtaB:				
Crider	tuliptree	98	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	90	72	
CteC2:				
Crider	tuliptree	97	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	black walnut	80	0	
	white oak	72	57	
	northern red oak	84	72	
Vertrees	white oak	74	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CtwB:				
Crider	tuliptree	98	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	90	72	
Bedford	northern red oak	75	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	sugar maple	75	43	
	tuliptree	90	86	
	white oak	70	57	
Navilleton	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
DeaC2:				
Deuchars	northern red oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Apalona	white oak	60	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	black oak	60	43	
Wellston	northern red oak	81	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	yellow-poplar	90	86	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
DeaC3:				
Deuchars	northern red oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Apalona	white oak	60	43	---
	black oak	60	43	
Wellston	northern red oak	81	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	90	86	
	Virginia pine	70	114	
EbhD2:				
Ebal	black oak	80	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
EbhD2:				
Gilpin------------------	tuliptree-----------	95	100	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
Wellston----------------	northern red oak----	81	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
EbhD3:				
Ebal--------------------	black oak-----------	80	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
EbhD3:				
Gilpin	tuliptree	95	100	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
Wellston	northern red oak	81	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
EepA:				
Elkinsville	white oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	tuliptree	118	143	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
EepB2:				
Elkinsville	white oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	tuliptree	118	143	
EepC2:				
Elkinsville	white oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
EepGQ:				
Elkinsville	white oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	tuliptree	118	143	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
EesA:				
Elkinsville	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Millstone	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	northern red oak	80	57	
EesB:				
Elkinsville	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
EesB:				
Millstone	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	northern red oak	80	57	
EesC2:				
Elkinsville	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Millstone	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	northern red oak	80	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
EesFQ:				
Elkinsville	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Millstone	white oak	90	72	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	northern red oak	80	57	
GacAW:				
Gatchel	---	---	---	Baldcypress, bitternut hickory, blackgum, bur oak, eastern cottonwood, eastern redcedar, pin oak, red maple, river birch, shingle oak, swamp white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
GbgB2:				
Gatton	white oak	90	72	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	tuliptree	98	100	
GbgC2:				
Gatton	white oak	90	72	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	tuliptree	98	100	
GbgC3:				
Gatton	white oak	90	72	American beech, baldcypress, bitternut hickory, bur oak, eastern white pine, Kentucky coffeetree, northern red oak, northern white-cedar, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp white oak, tuliptree, white oak.
	tuliptree	98	100	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
GfcF:				
Gilpin	---	---	---	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
Tipsaw	black oak	70	57	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
Ebal	black oak	80	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
GgbG:				
Gilwood	---	---	---	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
GgbG:				
Brownstown	black oak	50	29	Baldcypress, black oak, blackgum, bur oak, chestnut oak, common persimmon, eastern white pine, scarlet oak, shingle oak, southern red oak, Virginia pine, white oak.
GmaG:				
Gnawbone	---	---	---	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Kurtz	northern red oak	60	43	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
HcaA:				
Hatfield----------------	white oak-----------	75	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	sweetgum------------	88	100	
HcgAH:				
Haymond-----------------	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.
HcgAW:				
Haymond-----------------	black walnut--------	70	0	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
HcpAP:				
Haymond	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
HufAH:				
Huntington	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.
HufAK:				
Huntington	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
JoaA:				
Johnsburg	northern red oak	75	57	American beech, American sycamore, baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern cottonwood, eastern white pine, northern red oak, Norway spruce, pin oak, shingle oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, white oak.
	sweetgum	80	86	
	white oak	70	57	
KunAW:				
Kintner	---	---	---	Baldcypress, bitternut hickory, blackgum, bur oak, eastern cottonwood, eastern redcedar, pin oak, red maple, river birch, shingle oak, swamp white oak.
KxkC2:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxkC2:				
Navilleton	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
KxlC3:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Haggatt	tuliptree	86	86	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	68	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxlC3:				
Caneyville	black oak	65	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	chinkapin oak	51	29	
	scarlet oak	53	43	
KxlE3:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Haggatt	tuliptree	86	86	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	68	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxlE3:				
Caneyville	black oak	65	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	chinkapin oak	51	29	
	eastern redcedar	36	43	
	scarlet oak	53	43	
KxmE2:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Haggatt	tuliptree	86	86	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	68	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxmE2:				
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	tuliptree	90	86	
	white oak	64	43	
KxoC2:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Navilleton	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxoC2:				
Haggatt	tuliptree	86	86	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	68	57	
KxpD2:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Haggatt	tuliptree	86	86	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	68	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxpD2:				
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	64	43	
KxrC3:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Navilleton	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxrC3:				
Haggatt	tuliptree	86	86	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	68	57	
KxsD3:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Haggatt	tuliptree	86	86	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	68	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxsD3:				
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	64	43	
KxtC2:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Haggatt	tuliptree	86	86	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	white oak	68	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxtC2:				
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	64	43	
KxtC3:				
Knobcreek	northern red oak	76	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	86	86	
Haggatt	tuliptree	86	86	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	68	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
KxtC3:				
Caneyville	black oak	65	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	chinkapin oak	51	29	
	scarlet oak	53	43	
LaaA:				
Laconia	pin oak	90	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, Shumard's oak, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
	white oak	75	57	
LpoAK:				
Lindside	---	---	---	Baldcypress, bitternut hickory, black walnut, bur oak, cherrybark oak, Kentucky coffeetree, overcup oak, pecan, pin oak, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
LpoAQ:				
Lindside	tuliptree	107	114	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
McnGQ:				
Markland	tuliptree	95	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
MdlD2:				
Markland	tuliptree	95	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
MdwD3:				
Markland	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
MhuA:				
McGary	sweetgum	80	86	American beech, baldcypress, bitternut hickory, bur oak, cherrybark oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white oak.
	white oak	70	57	
	tuliptree	85	86	
NbhAK:				
Newark	pin oak	96	72	American sycamore, baldcypress, blackgum, bur oak, overcup oak, pecan, pin oak, red maple, river birch, shellbark hickory, shingle oak, Shumard's oak, silver maple, swamp chestnut oak, swamp white oak, sweetgum.
	sweetgum	85	86	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
NbhAQ:				
Newark	---	---	---	American beech, baldcypress, bitternut hickory, bur oak, cherrybark oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white oak.
NprAQ:				
Nolin	tuliptree	100	114	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Omz.				
Orthents				

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
PcrA:				
Pekin	sugar maple	75	43	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	85	86	
	white oak	70	57	
PcrB2:				
Pekin	sugar maple	75	43	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	tuliptree	85	86	
	white oak	70	57	
PhwB2:				
Percell	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
Pml.				
Pits, quarry				

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
Ppu. Pits, sand and gravel				
RmcE: Riney	tuliptree	99	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	northern red oak	88	72	
ScbA: Sciotoville	northern red oak	80	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	eastern white pine	90	172	
	sugar maple	80	57	
ScbB2: Sciotoville	northern red oak	80	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	eastern white pine	90	172	
	tuliptree	90	86	
	sugar maple	80	57	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
SfyB:				
Shircliff	---	---	---	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
Uaa.				
Udorthents				
UekAQ:				
Urban land.				
Elkinsville	white oak	90	72	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
Haymond	black walnut	70	0	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
UflC:				
Urban land.				
Crider	tuliptree	97	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	black walnut	80	0	
	white oak	72	57	
	northern red oak	84	72	
Vertrees	white oak	74	57	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
UnsB:				
Urban land.				
Udarents	---	---	---	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
Usl. Udorthents				
VcaC3:				
Vertrees	yellow-poplar	90	86	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	black oak	80	57	
	white oak	80	57	
Crider	tuliptree	97	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	black walnut	80	0	
	white oak	72	57	
	northern red oak	84	72	
Caneyville	black oak	65	43	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	chinkapin oak	51	29	
	scarlet oak	53	43	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
VcbD2:				
Vertrees	tuliptree	97	100	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	black walnut	80	0	
	white oak	72	57	
	northern red oak	84	72	
Crider	tuliptree	97	100	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
	black walnut	80	0	
	white oak	72	57	
	northern red oak	84	72	
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	64	43	

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
VccD3:				
Vertrees	yellow-polar	90	86	American beech, black oak, blackgum, bur oak, cherrybark oak, chestnut oak, common persimmon, eastern white pine, northern red oak, Norway spruce, scarlet oak, shagbark hickory, shingle oak, southern red oak, sugar maple, swamp chestnut oak, tuliptree, white oak.
	black oak	80	57	
	chinkapin oak	80	57	
Haggatt	tuliptree	86	86	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	white oak	68	57	
Caneyville	black oak	71	57	Black cherry, black oak, blackgum, bur oak, chestnut oak, chinkapin oak, eastern white pine, northern red oak, pignut hickory, scarlet oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white oak.
	eastern redcedar	46	57	
	white oak	64	43	
W. Water				

Table 9.—Forest Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
WbkAP:				
Wilbur	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.
Newark	pin oak	96	72	American beech, baldcypress, bitternut hickory, bur oak, cherrybark oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pin oak, shingle oak, Shumard's oak, silver maple, sugar maple, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white oak.
	eastern cottonwood	89	100	
	sweetgum	85	86	
WycAQ:				
Woodmere	---	---	---	American beech, black cherry, black oak, black walnut, bur oak, chinkapin oak, eastern white pine, Kentucky coffeetree, northern red oak, Norway spruce, pecan, pignut hickory, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white oak.

Table 10.—Forestland Management, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeoB2:							
Alford--------------	86	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
AeoC2:							
Alford--------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
AgzB:							
Apalona-------------	47	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50				
Zanesville----------	31	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
BbhA:							
Bartle--------------	83	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
BcrAW:							
Beanblossom---------	89	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
BdoA:							
Bedford-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Wetness	0.50		
BdoB:							
Bedford-------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Wetness	0.50		
BkeC2:							
Bloomfield----------	55	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
Alvin---------------	40	Slight		Moderately suited		Moderate	
				Slope	0.50	Low strength	0.50
BuoA:							
Bromer--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
BvsG:							
Brussels------------	65	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Stoniness	1.00	Rock fragments	1.00		
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
BvsG:							
Rock outcrop--------	25	Not rated		Not rated		Not rated	
CbrD2:							
Caneyville----------	35	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
Haggatt-------------	30	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.33	Landslides	0.33		
Knobcreek-----------	15	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.33	Landslides	0.33		
CbsD3:							
Caneyville----------	40	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
Haggatt-------------	26	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		
Knobcreek-----------	17	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.36	Low strength	0.50		
				Landslides	0.36		
CbxD4:							
Caneyville----------	35	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
		Landslides	0.24	Landslides	0.24		
Haggatt-------------	30	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.24	Low strength	0.50		
				Landslides	0.24		
CcaG:							
Caneyville----------	53	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
Rock outcrop--------	15	Not rated		Not rated		Not rated	
CtaB:							
Crider--------------	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
CteC2:							
Crider--------------	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		
Vertrees------------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.04	Landslides	0.04		
CtwB:							
Crider--------------	39	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Bedford-------------	29	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Wetness	0.50		
Navilleton----------	28	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50				
DeaC2:							
Deuchars------------	28	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.12	Landslides	0.12		
Apalona-------------	23	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.04	Landslides	0.04		
Wellston------------	23	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
DeaC3:							
Deuchars------------	28	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.12	Landslides	0.12		
Apalona-------------	23	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.04		
Wellston------------	23	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.12	Low strength	0.50		
				Landslides	0.12		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
EbhD2:							
Ebal	25	Moderate		Poorly suited		Severe	
		Landslides	0.60	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.60		
		Stickiness/slope	0.50	Low strength	0.50		
Gilpin	20	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		
Wellston	20	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.36	Low strength	0.50		
				Landslides	0.36		
EbhD3:							
Ebal	25	Moderate		Poorly suited		Severe	
		Landslides	0.60	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.60		
				Low strength	0.50		
Gilpin	22	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.36	Landslides	0.36		
Wellston	21	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.36	Low strength	0.50		
				Landslides	0.36		
EepA:							
Elkinsville	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
EepB2:							
Elkinsville	95	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
EepC2:							
Elkinsville	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
EepGQ:							
Elkinsville	86	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
EesA:							
Elkinsville	52	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Millstone	43	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
EesB:							
Elkinsville----------	55	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Millstone-----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
EesC2:							
Elkinsville----------	50	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
Millstone-----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
				Low strength	0.50		
EesFQ:							
Elkinsville----------	60	Moderate		Poorly suited		Severe	
		Landslides	0.60	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.60		
				Low strength	0.50		
Millstone-----------	40	Moderate		Poorly suited		Severe	
		Landslides	0.60	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.60		
				Low strength	0.50		
GacAW:							
Gatchel-------------	88	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
				Low strength	0.50		
GbgB2:							
Gatton--------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
				Wetness	0.50		
GbgC2:							
Gatton--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.04		
GbgC3:							
Gatton--------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Wetness	0.50		
				Landslides	0.04		
GfcF:							
Gilpin--------------	27	Moderate		Poorly suited		Severe	
		Landslides	0.60	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.60		
		Restrictive layer	0.50	Low strength	0.50		
Tipsaw--------------	22	Moderate		Poorly suited		Moderate	
		Landslides	0.60	Slope	1.00	Low strength	0.50
		Slope	0.50	Landslides	0.60		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
GfcF:							
Ebal	20	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	1.00		
				Low strength	0.50		
GgbG:							
Gilwood	45	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
Brownstown	35	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
				Low strength	0.50		
GmaG:							
Gnawbone	55	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		
Kurtz	35	Severe		Poorly suited		Severe	
		Landslides	1.00	Slope	1.00	Low strength	1.00
		Slope	1.00	Landslides	1.00		
		Low strength	0.50	Low strength	0.50		
HcaA:							
Hatfield	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
HcgAH:							
Haymond	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
HcgAW:							
Haymond	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
HcpAP:							
Haymond	86	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Low strength	0.50		
HufAH:							
Huntington	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
HufAK:							
Huntington	90	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
JoaA:							
Johnsburg-----------	92	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
KunAW:							
Kintner-------------	95	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
KxkC2:							
Knobcreek-----------	37	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.04	Landslides	0.04		
Navilleton----------	35	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.04	Landslides	0.04		
KxlC3:							
Knobcreek-----------	33	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.04	Landslides	0.04		
Haggatt-------------	26	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Caneyville----------	24	Moderate		Moderately suited		Severe	
		Restrictive layer	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
KxlE3:							
Knobcreek-----------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
Haggatt-------------	22	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
Caneyville----------	21	Severe		Poorly suited		Severe	
		Restrictive layer	1.00	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
KxmE2:							
Knobcreek-----------	33	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
KxmE2:							
Haggatt-------------	22	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
Caneyville----------	20	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
KxoC2:							
Knobcreek-----------	29	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.04	Landslides	0.04		
Navilleton----------	28	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.02	Landslides	0.02		
Haggatt-------------	27	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		
KxpD2:							
Knobcreek-----------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.33	Landslides	0.33		
Haggatt-------------	31	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.33	Landslides	0.33		
Caneyville----------	30	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
KxrC3:							
Knobcreek-----------	29	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		
Navilleton----------	28	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.02	Slope	0.50		
				Landslides	0.02		
Haggatt-------------	27	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
KxsD3:							
Knobcreek-----------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.33	Low strength	0.50		
				Landslides	0.33		
Haggatt-------------	31	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.33	Landslides	0.33		
Caneyville----------	30	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
KxtC2:							
Knobcreek-----------	23	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.04	Landslides	0.04		
Haggatt-------------	22	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		
Caneyville----------	18	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Restrictive layer	0.50	Slope	0.50		
		Landslides	0.12	Landslides	0.12		
KxtC3:							
Knobcreek-----------	25	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.04	Landslides	0.04		
Haggatt-------------	22	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		
Caneyville----------	20	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.08	Low strength	0.50		
				Landslides	0.08		
LaaA:							
Laconia-------------	75	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
LpoAK:							
Lindside------------	82	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
LpoAQ:							
Lindside------------	86	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
McnGQ:							
Markland------------	90	Severe		Poorly suited		Severe	
		Slope	1.00	Slope	1.00	Low strength	1.00
		Landslides	0.60	Landslides	0.60		
		Low strength	0.50	Low strength	0.50		
MdlD2:							
Markland------------	80	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.27	Low strength	0.50		
				Landslides	0.27		
MdwD3:							
Markland------------	80	Moderate		Poorly suited		Severe	
		Low strength	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.27	Low strength	0.50		
				Landslides	0.27		
MhuA:							
McGary--------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
NbhAK:							
Newark--------------	80	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	1.00	Low strength	0.50		
		Low strength	0.50				
NbhAQ:							
Newark--------------	90	Severe		Moderately suited		Severe	
		Wetness	1.00	Low strength	0.50	Low strength	1.00
		Low strength	0.50				
NprAQ:							
Nolin---------------	80	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Omz:							
Orthents------------	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin---------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
PcrB2:							
Pekin---------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
PhwB2:							
Percell-------------	92	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Pml:							
Pits, quarry--------	85	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
Ppu:							
Pits, sand and gravel	80	Not rated		Not rated		Not rated	
RmcE:							
Riney	86	Moderate		Poorly suited		Severe	
		Landslides	0.57	Slope	1.00	Low strength	1.00
		Slope	0.50	Landslides	0.57		
				Low strength	0.50		
ScbA:							
Sciotoville	88	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
ScbB2:							
Sciotoville	75	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
SfyB:							
Shircliff	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Uaa:							
Udorthents	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land	60	Not rated		Not rated		Not rated	
Elkinsville	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
Haymond	15	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
UflC:							
Urban land	60	Not rated		Not rated		Not rated	
Crider	20	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		
Vertrees	15	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Stickiness/slope	0.50	Slope	0.50		
		Landslides	0.04	Landslides	0.04		
UnsB:							
Urban land	50	Not rated		Not rated		Not rated	
Udarents	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.01	Slope	0.50		
				Landslides	0.01		
Usl:							
Udorthents	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
VcaC3:							
Vertrees------------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Slope	0.50	Low strength	1.00
		Landslides	0.04	Low strength	0.50		
				Landslides	0.04		
Crider--------------	30	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
		Landslides	0.04	Slope	0.50		
				Landslides	0.04		
Caneyville----------	20	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.08	Low strength	0.50		
				Landslides	0.08		
VcbD2:							
Vertrees------------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Stickiness/slope	0.50	Low strength	0.50		
		Landslides	0.11	Landslides	0.11		
Crider--------------	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.33	Low strength	0.50		
				Landslides	0.33		
Caneyville----------	15	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
VccD3:							
Vertrees------------	35	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Landslides	0.33	Low strength	0.50		
				Landslides	0.33		
Haggatt-------------	25	Moderate		Poorly suited		Severe	
		Slope	0.50	Slope	1.00	Low strength	1.00
		Restrictive layer	0.50	Low strength	0.50		
		Landslides	0.33	Landslides	0.33		
Caneyville----------	20	Moderate		Poorly suited		Severe	
		Restrictive layer	0.50	Slope	1.00	Low strength	1.00
		Slope	0.50	Low strength	0.50		
		Landslides	0.39	Landslides	0.39		
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur--------------	50	Moderate		Poorly suited		Severe	
		Low strength	0.50	Ponding	1.00	Low strength	1.00
				Low strength	0.50		
Newark--------------	40	Severe		Poorly suited		Severe	
		Wetness	1.00	Ponding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		

Table 10.—Forestland Management, Part I—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WycAQ:							
Woodmere------------	90	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10.—Forestland Management, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
AeoB2:							
Alford	86	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
AeoC2:							
Alford	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
AgzB:							
Apalona	47	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Zanesville	31	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
BbhA:							
Bartle	83	Slight		Slight		Moderately suited	
						Low strength	0.50
BcrAW:							
Beanblossom	89	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
BdoA:							
Bedford	85	Slight		Slight		Moderately suited	
						Low strength	0.50
						Wetness	0.50
BdoB:							
Bedford	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
BkeC2:							
Bloomfield	55	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
Alvin	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Slope	0.50
BuoA:							
Bromer	85	Slight		Slight		Moderately suited	
						Low strength	0.50
BvsG:							
Brussels	65	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Rock fragments	1.00
						Landslides	0.60
						Low strength	0.50
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
CbrD2:							
Caneyville	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
Haggatt	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Knobcreek	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
CbsD3:							
Caneyville	40	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
Haggatt	26	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
Knobcreek	17	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
CbxD4:							
Caneyville	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.24
Haggatt	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.24
CcaG:							
Caneyville	53	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
CtaB:							
Crider	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
CteC2:							
Crider	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
CteC2:							
Vertrees	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
CtwB:							
Crider	39	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Bedford	29	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
Navilleton	28	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
DeaC2:							
Deuchars	28	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.12
Apalona	23	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Wellston	23	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
DeaC3:							
Deuchars	28	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.12
Apalona	23	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.04
Wellston	23	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.12
EbhD2:							
Ebal	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
Gilpin	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
EbhD2:							
Wellston------------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
EbhD3:							
Ebal----------------	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
Gilpin--------------	22	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
Wellston------------	21	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.36
EepA:							
Elkinsville---------	95	Slight		Slight		Moderately suited	
						Low strength	0.50
EepB2:							
Elkinsville---------	95	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
EepC2:							
Elkinsville---------	90	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
EepGQ:							
Elkinsville---------	86	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
EesA:							
Elkinsville---------	52	Slight		Slight		Moderately suited	
						Low strength	0.50
Millstone-----------	43	Slight		Slight		Moderately suited	
						Low strength	0.50
EesB:							
Elkinsville---------	55	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Millstone-----------	40	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
EesC2:							
Elkinsville---------	50	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
EesC2:							
Millstone-----------	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
EesFQ:							
Elkinsville---------	60	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
Millstone-----------	40	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
GacAW:							
Gatchel-------------	88	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
GbgB2:							
Gatton--------------	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Wetness	0.50
GbgC2:							
Gatton--------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.04
GbgC3:							
Gatton--------------	85	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Wetness	0.50
						Landslides	0.04
GfcF:							
Gilpin--------------	27	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
Tipsaw--------------	22	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
Ebal----------------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
GgbG:							
Gilwood-------------	45	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
GgbG:							
Brownstown----------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
GmaG:							
Gnawbone------------	55	Very severe		Severe		Poorly suited	
		Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
Kurtz---------------	35	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	1.00
						Low strength	0.50
HcaA:							
Hatfield------------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
HcgAH:							
Haymond-------------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
HcgAW:							
Haymond-------------	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
HcpAP:							
Haymond-------------	86	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
HufAH:							
Huntington----------	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
HufAK:							
Huntington----------	90	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
JoaA:							
Johnsburg-----------	92	Slight		Slight		Moderately suited	
						Low strength	0.50
KunAW:							
Kintner-------------	95	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
KxkC2:							
Knobcreek-----------	37	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
KxkC2:							
Navilleton----------	35	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
KxlC3:							
Knobcreek-----------	33	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Haggatt-------------	26	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Caneyville----------	24	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
KxlE3:							
Knobcreek-----------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
Haggatt-------------	22	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
Caneyville----------	21	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
KxmE2:							
Knobcreek-----------	33	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
Haggatt-------------	22	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
Caneyville----------	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
KxoC2:							
Knobcreek-----------	29	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
KxoC2:							
Navilleton----------	28	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.02
Haggatt-------------	27	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
KxpD2:							
Knobcreek-----------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Haggatt-------------	31	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Caneyville----------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
KxrC3:							
Knobcreek-----------	29	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
Navilleton----------	28	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.02
Haggatt-------------	27	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
KxsD3:							
Knobcreek-----------	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Haggatt-------------	31	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Caneyville----------	30	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
KxtC2:							
Knobcreek	23	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
Haggatt	22	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
Caneyville	18	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.12
KxtC3:							
Knobcreek	25	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
Haggatt	22	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
Caneyville	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.08
LaaA:							
Laconia	75	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
LpoAK:							
Lindside	82	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
LpoAQ:							
Lindside	86	Slight		Slight		Moderately suited	
						Low strength	0.50
McnGQ:							
Markland	90	Severe		Severe		Poorly suited	
		Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.60
						Low strength	0.50
MdlD2:							
Markland	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.27

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
MdwD3:							
Markland------------	80	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.27
MhuA:							
McGary--------------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
NbhAK:							
Newark--------------	80	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
NbhAQ:							
Newark--------------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
NprAQ:							
Nolin---------------	80	Slight		Slight		Moderately suited	
						Low strength	0.50
Omz:							
Orthents------------	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin---------------	90	Slight		Slight		Moderately suited	
						Low strength	0.50
PcrB2:							
Pekin---------------	85	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
PhwB2:							
Percell-------------	92	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Pml:							
Pits, quarry--------	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel-------------	80	Not rated		Not rated		Not rated	
RmcE:							
Riney---------------	86	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Landslides	0.57
						Low strength	0.50
ScbA:							
Sciotoville---------	88	Slight		Slight		Moderately suited	
						Low strength	0.50
ScbB2:							
Sciotoville---------	75	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
SfyB:							
Shircliff	90	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Uaa:							
Udorthents	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land	60	Not rated		Not rated		Not rated	
Elkinsville	20	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
Haymond	15	Slight		Slight		Moderately suited	
						Low strength	0.50
UflC:							
Urban land	60	Not rated		Not rated		Not rated	
Crider	20	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
Vertrees	15	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
UnsB:							
Urban land	50	Not rated		Not rated		Not rated	
Udarents	30	Slight		Moderate		Moderately suited	
				Slope/erodibility	0.50	Low strength	0.50
						Slope	0.50
						Landslides	0.01
Usl:							
Udorthents	100	Not rated		Not rated		Not rated	
VcaC3:							
Vertrees	40	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Slope	0.50
						Low strength	0.50
						Landslides	0.04
Crider	30	Slight		Severe		Moderately suited	
				Slope/erodibility	0.95	Low strength	0.50
						Slope	0.50
						Landslides	0.04
Caneyville	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.08
VcbD2:							
Vertrees	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.11

Table 10.—Forestland Management, Part II—Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
VcbD2:							
Crider	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Caneyville	15	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
VccD3:							
Vertrees	35	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Haggatt	25	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.33
Caneyville	20	Moderate		Severe		Poorly suited	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
						Low strength	0.50
						Landslides	0.39
W:							
Water	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur	50	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
Newark	40	Slight		Slight		Poorly suited	
						Ponding	1.00
						Low strength	0.50
WycAQ:							
Woodmere	90	Slight		Slight		Moderately suited	
						Low strength	0.50

Table 10.—Forestland Management, Part III

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
AeoB2:							
Alford	86	Well suited		Well suited		Moderately suited	
						Low strength	0.50
AeoC2:							
Alford	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
AgzB:							
Apalona	47	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Zanesville	31	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BbhA:							
Bartle	83	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BcrAW:							
Beanblossom	89	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BdoA:							
Bedford	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BdoB:							
Bedford	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BkeC2:							
Bloomfield	55	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Alvin	40	Well suited		Moderately suited		Well suited	
				Slope	0.50		
BuoA:							
Bromer	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
BvsG:							
Brussels	65	Poorly suited		Unsuited		Poorly suited	
		Rock fragments	0.75	Slope	1.00	Rock fragments	1.00
		Slope	0.50	Rock fragments	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Rock outcrop	25	Not rated		Not rated		Not rated	

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
CbrD2:							
Caneyville	35	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
Haggatt	30	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Knobcreek	15	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
CbsD3:							
Caneyville	40	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Haggatt	26	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
Knobcreek	17	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
CbxD4:							
Caneyville	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
				Rock fragments	0.50		
Haggatt	30	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
CcaG:							
Caneyville	53	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
Rock outcrop	15	Not rated		Not rated		Not rated	
CtaB:							
Crider	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CteC2:							
Crider	50	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Vertrees	25	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
CtwB:							
Crider	39	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Bedford	29	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Navilleton	28	Well suited		Well suited		Moderately suited	
						Low strength	0.50
DeaC2:							
Deuchars	28	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Apalona	23	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Wellston	23	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
DeaC3:							
Deuchars	28	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Apalona	23	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Wellston	23	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
EbhD2:							
Ebal	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Gilpin	20	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
				Rock fragments	0.50		
Wellston	20	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
EbhD3:							
Ebal	25	Moderately suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.50		
Gilpin	22	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
				Rock fragments	0.50		
Wellston	21	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
EepA:							
Elkinsville	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
EepB2:							
Elkinsville	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
EepC2:							
Elkinsville	90	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
EepGQ:							
Elkinsville	86	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
						Low strength	0.50
EesA:							
Elkinsville	52	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Millstone	43	Well suited		Well suited		Moderately suited	
						Low strength	0.50
EesB:							
Elkinsville	55	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Millstone	40	Well suited		Well suited		Moderately suited	
						Low strength	0.50
EesC2:							
Elkinsville	50	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Millstone	40	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
EesFQ:							
Elkinsville	60	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
Millstone	40	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
						Low strength	0.50
GacAW:							
Gatchel	88	Well suited		Well suited		Moderately suited	
						Low strength	0.50
GbgB2:							
Gatton	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
GbgC2:							
Gatton	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
GbgC3:							
Gatton	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
GfcF:							
Gilpin	27	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Low strength	0.50
				Rock fragments	0.50	Slope	0.50
Tipsaw	22	Well suited		Unsuited		Moderately suited	
				Slope	1.00	Slope	0.50
				Rock fragments	0.50		
Ebal	20	Moderately suited		Unsuited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Low strength	0.50
				Stickiness; high plasticity index	0.50	Slope	0.50
GgbG:							
Gilwood	45	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
Brownstown	35	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
GmaG:							
Gnawbone	55	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
				Rock fragments	0.50	Low strength	0.50
Kurtz	35	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
						Low strength	0.50
HcaA:							
Hatfield	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HcgAH:							
Haymond	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HcgAW:							
Haymond	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HcpAP:							
Haymond	86	Well suited		Well suited		Moderately suited	
						Low strength	0.50
HufAH:							
Huntington	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
HufAK:							
Huntington----------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
JoaA:							
Johnsburg-----------	92	Well suited		Well suited		Moderately suited	
						Low strength	0.50
KunAW:							
Kintner-------------	95	Well suited		Well suited		Moderately suited	
						Low strength	0.50
KxkC2:							
Knobcreek-----------	37	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Navilleton----------	35	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
KxlC3:							
Knobcreek-----------	33	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Haggatt-------------	26	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Caneyville----------	24	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
KxlE3:							
Knobcreek-----------	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Haggatt-------------	22	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
Caneyville----------	21	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
KxmE2:							
Knobcreek-----------	33	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Haggatt-------------	22	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Caneyville----------	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
KxoC2:							
Knobcreek-----------	29	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Navilleton----------	28	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Haggatt-------------	27	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
KxpD2:							
Knobcreek-----------	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Haggatt-------------	31	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Caneyville----------	30	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
KxrC3:							
Knobcreek-----------	29	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Navilleton----------	28	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Haggatt-------------	27	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
KxsD3:							
Knobcreek-----------	35	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Haggatt-------------	31	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Caneyville----------	30	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
KxtC2:							
Knobcreek-----------	23	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Haggatt-------------	22	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Caneyville----------	18	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
KxtC3:							
Knobcreek-----------	25	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
KxtC3:							
Haggatt-------------	22	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Caneyville----------	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
LaaA:							
Laconia-------------	75	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
LpoAK:							
Lindside------------	82	Well suited		Well suited		Moderately suited	
						Low strength	0.50
LpoAQ:							
Lindside------------	86	Well suited		Well suited		Moderately suited	
						Low strength	0.50
McnGQ:							
Markland------------	90	Moderately suited		Unsuited		Poorly suited	
		Stickiness; high plasticity index	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
MdlD2:							
Markland------------	80	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
MdwD3:							
Markland------------	80	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Slope	0.50	Low strength	0.50
				Stickiness; high plasticity index	0.50		
MhuA:							
McGary--------------	90	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
NbhAK:							
Newark--------------	80	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
NbhAQ:							
Newark--------------	90	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
NprAQ:							
Nolin---------------	80	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
PcrB2:							
Pekin	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
PhwB2:							
Percell	92	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Pml:							
Pits, quarry	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel	80	Not rated		Not rated		Not rated	
RmcE:							
Riney	86	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
						Slope	0.50
ScbA:							
Sciotoville	88	Well suited		Well suited		Moderately suited	
						Low strength	0.50
ScbB2:							
Sciotoville	75	Well suited		Well suited		Moderately suited	
						Low strength	0.50
SfyB:							
Shircliff	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Uaa:							
Udorthents	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land	60	Not rated		Not rated		Not rated	
Elkinsville	20	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Haymond	15	Well suited		Well suited		Moderately suited	
						Low strength	0.50
UflC:							
Urban land	60	Not rated		Not rated		Not rated	
Crider	20	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
UflC:							
Vertrees	15	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
UnsB:							
Urban land	50	Not rated		Not rated		Not rated	
Udarents	30	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
Usl:							
Udorthents	100	Not rated		Not rated		Not rated	
VcaC3:							
Vertrees	40	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
				Rock fragments	0.50		
Crider	30	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
Caneyville	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
				Slope	0.50		
VcbD2:							
Vertrees	35	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
				Rock fragments	0.50		
Crider	25	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Low strength	0.50
Caneyville	15	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
VccD3:							
Vertrees	35	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
				Rock fragments	0.50		
Haggatt	25	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		

Table 10.—Forestland Management, Part III—Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
VccD3:							
Caneyville----------	20	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
				Stickiness; high plasticity index	0.75		
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur--------------	50	Well suited		Well suited		Moderately suited	
						Low strength	0.50
Newark--------------	40	Well suited		Well suited		Poorly suited	
						Wetness	1.00
						Low strength	0.50
WycAQ:							
Woodmere------------	90	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.—Forestland Management, Part IV

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value column range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
AeoB2:			
Alford	86	Low	
AeoC2:			
Alford	90	Low	
AgzB:			
Apalona	47	Low	
Zanesville	31	Low	
BbhA:			
Bartle	83	High	
		Wetness	1.00
BcrAW:			
Beanblossom	89	Low	
BdoA:			
Bedford	85	Low	
BdoB:			
Bedford	85	Low	
BkeC2:			
Bloomfield	55	Low	
Alvin	40	Low	
BuoA:			
Bromer	85	High	
		Wetness	1.00
BvsG:			
Brussels	65	Moderate	
		Available water	0.50
Rock outcrop	25	Not rated	
CbrD2:			
Caneyville	35	Moderate	
		Available water	0.50
Haggatt	30	Moderate	
		Available water	0.50
Knobcreek	15	Moderate	
		Available water	0.50

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
CbsD3:			
Caneyville	40	Moderate	
		Available water	0.50
Haggatt	26	Moderate	
		Available water	0.50
Knobcreek	17	Moderate	
		Available water	0.50
CbxD4:			
Caneyville	35	Low	
Haggatt	30	Low	
CcaG:			
Caneyville	53	Moderate	
		Available water	0.50
Rock outcrop	15	Not rated	
CtaB:			
Crider	75	Low	
CteC2:			
Crider	50	Low	
Vertrees	25	Low	
CtwB:			
Crider	39	Low	
Bedford	29	Low	
Navilleton	28	Low	
DeaC2:			
Deuchars	28	Low	
Apalona	23	Low	
Wellston	23	Low	
DeaC3:			
Deuchars	28	Low	
Apalona	23	Low	
Wellston	23	Low	
EbhD2:			
Ebal	25	Moderate	
		Available water	0.50
Gilpin	20	Moderate	
		Available water	0.50
Wellston	20	Moderate	
		Available water	0.50

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
EbhD3:			
Ebal	25	Moderate	
		Available water	0.50
Gilpin	22	Moderate	
		Available water	0.50
Wellston	21	Moderate	
		Available water	0.50
EepA:			
Elkinsville	95	Low	
EepB2:			
Elkinsville	95	Low	
EepC2:			
Elkinsville	90	Low	
EepGQ:			
Elkinsville	86	Moderate	
		Available water	0.50
EesA:			
Elkinsville	52	Low	
Millstone	43	Low	
EesB:			
Elkinsville	55	Low	
Millstone	40	Low	
EesC2:			
Elkinsville	50	Low	
Millstone	40	Low	
EesFQ:			
Elkinsville	60	Moderate	
		Available water	0.50
Millstone	40	Moderate	
		Available water	0.50
GacAW:			
Gatchel	88	Low	
GbgB2:			
Gatton	90	Low	
GbgC2:			
Gatton	85	Low	
GbgC3:			
Gatton	85	Moderate	
		Wetness	0.50

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
GfcF:			
Gilpin	27	Moderate	
		Available water	0.50
Tipsaw	22	Moderate	
		Available water	0.50
		Soil reaction	0.50
Ebal	20	Moderate	
		Available water	0.50
GgbG:			
Gilwood	45	Moderate	
		Available water	0.50
Brownstown	35	Moderate	
		Available water	0.50
GmaG:			
Gnawbone	55	Moderate	
		Available water	0.50
		Soil reaction	0.50
Kurtz	35	Moderate	
		Available water	0.50
		Soil reaction	0.50
HcaA:			
Hatfield	90	High	
		Wetness	1.00
HcgAH:			
Haymond	85	Low	
HcgAW:			
Haymond	80	Low	
HcpAP:			
Haymond	86	Low	
HufAH:			
Huntington	90	Low	
HufAK:			
Huntington	90	Low	
JoaA:			
Johnsburg	92	High	
		Wetness	1.00
KunAW:			
Kintner	95	Low	
KxkC2:			
Knobcreek	37	Low	
Navilleton	35	Low	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
KxlC3:			
Knobcreek-----------	33	Low	
Haggatt-------------	26	Low	
Caneyville----------	24	Low	
KxlE3:			
Knobcreek-----------	35	Moderate	
		Available water	0.50
Haggatt-------------	22	Moderate	
		Available water	0.50
Caneyville----------	21	Moderate	
		Available water	0.50
KxmE2:			
Knobcreek-----------	33	Moderate	
		Available water	0.50
Haggatt-------------	22	Moderate	
		Available water	0.50
Caneyville----------	20	Moderate	
		Available water	0.50
KxoC2:			
Knobcreek-----------	29	Low	
Navilleton----------	28	Low	
Haggatt-------------	27	Low	
KxpD2:			
Knobcreek-----------	35	Moderate	
		Available water	0.50
Haggatt-------------	31	Moderate	
		Available water	0.50
Caneyville----------	30	Moderate	
		Available water	0.50
KxrC3:			
Knobcreek-----------	29	Low	
Navilleton----------	28	Low	
Haggatt-------------	27	Low	
KxsD3:			
Knobcreek-----------	35	Moderate	
		Available water	0.50
Haggatt-------------	31	Moderate	
		Available water	0.50

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
KxsD3:			
Caneyville----------	30	Moderate	
		Available water	0.50
KxtC2:			
Knobcreek-----------	23	Low	
Haggatt-------------	22	Low	
Caneyville----------	18	Low	
KxtC3:			
Knobcreek-----------	25	Low	
Haggatt-------------	22	Low	
Caneyville----------	20	Low	
LaaA:			
Laconia-------------	75	High	
		Wetness	1.00
LpoAK:			
Lindside------------	82	Low	
LpoAQ:			
Lindside------------	86	Low	
McnGQ:			
Markland------------	90	Moderate	
		Available water	0.50
MdlD2:			
Markland------------	80	Low	
MdwD3:			
Markland------------	80	Low	
MhuA:			
McGary--------------	90	High	
		Wetness	1.00
NbhAK:			
Newark--------------	80	High	
		Wetness	1.00
NbhAQ:			
Newark--------------	90	High	
		Wetness	1.00
NprAQ:			
Nolin---------------	80	Low	
Omz:			
Orthents------------	100	Not rated	
PcrA:			
Pekin---------------	90	Low	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
PcrB2:			
Pekin	85	Low	
PhwB2:			
Percell	92	Low	
Pml:			
Pits, quarry	85	Not rated	
Ppu:			
Pits, sand and gravel	80	Not rated	
RmcE:			
Riney	86	Moderate	
		Available water	0.50
ScbA:			
Sciotoville	88	Low	
ScbB2:			
Sciotoville	75	Low	
SfyB:			
Shircliff	90	Low	
Uaa:			
Udorthents	90	Not rated	
UekAQ:			
Urban land	60	Not rated	
Elkinsville	20	Low	
Haymond	15	Low	
UflC:			
Urban land	60	Not rated	
Crider	20	Low	
Vertrees	15	Low	
UnsB:			
Urban land	50	Not rated	
Udarents	30	Low	
Usl:			
Udorthents	100	Not rated	
VcaC3:			
Vertrees	40	Low	
Crider	30	Low	
Caneyville	20	Low	

Table 10.—Forestland Management, Part IV—Continued

Map symbol and soil name	Pct. of map unit	Potential for seedling mortality: Rating class and limiting features	Value
VcbD2:			
Vertrees	35	Moderate	
		Available water	0.50
Crider	25	Moderate	
		Available water	0.50
Caneyville	15	Moderate	
		Available water	0.50
VccD3:			
Vertrees	35	Moderate	
		Available water	0.50
Haggatt	25	Moderate	
		Available water	0.50
Caneyville	20	Moderate	
		Available water	0.50
W:			
Water	100	Not rated	
WbkAP:			
Wilbur	50	Low	
Newark	40	High	
		Wetness	1.00
WycAQ:			
Woodmere	90	Low	

Table 11.—Recreational Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeoB2:							
Alford	86	Not limited		Not limited		Somewhat limited	
						Slope	0.55
AeoC2:							
Alford	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
AgzB:							
Apalona	47	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.55
						Depth to saturated zone	0.39
Zanesville	31	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	0.55
						Depth to saturated zone	0.39
BbhA:							
Bartle	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
BcrAW:							
Beanblossom	89	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
BdoA:							
Bedford	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
BdoB:							
Bedford	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.55
BkeC2:							
Bloomfield	55	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.98	Too sandy	0.98	Slope	1.00
		Slope	0.16	Slope	0.16	Too sandy	0.98
Alvin	40	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.92	Too sandy	0.92	Slope	1.00
		Slope	0.16	Slope	0.16	Too sandy	0.92
BuoA:							
Bromer	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
BvsG:							
Brussels------------	65	Very limited		Very limited		Very limited	
		Slope	1.00	Large stones content	1.00	Large stones content	1.00
		Large stones content	1.00	Slope	1.00	Slope	1.00
Rock outcrop--------	25	Not rated		Not rated		Not rated	
CbrD2:							
Caneyville----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.06
Haggatt-------------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Knobcreek-----------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.84	Slow water movement	0.84	Slow water movement	0.84
CbsD3:							
Caneyville----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.20
Haggatt-------------	26	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Knobcreek-----------	17	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.84	Slow water movement	0.84	Slow water movement	0.84
CbxD4:							
Caneyville----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Haggatt-------------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
CcaG:							
Caneyville----------	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.20
Rock outcrop--------	15	Not rated		Not rated		Not rated	

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
CtaB:							
Crider	75	Not limited		Not limited		Somewhat limited	
						Slope	0.55
CteC2:							
Crider	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Vertrees	25	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
CtwB:							
Crider	39	Not limited		Not limited		Somewhat limited	
						Slope	0.55
Bedford	29	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.55
Navilleton	28	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.55
DeaC2:							
Deuchars	28	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
Apalona	23	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
Wellston	23	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
DeaC3:							
Deuchars	28	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Slow water movement	0.96
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
Apalona	23	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
Wellston	23	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
EbhD2:							
Ebal----------------	25	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Slow water movement	1.00
Gilpin--------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.16
Wellston------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
EbhD3:							
Ebal----------------	25	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Slow water movement	1.00
Gilpin--------------	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.54
Wellston------------	21	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
EepA:							
Elkinsville---------	95	Not limited		Not limited		Not limited	
EepB2:							
Elkinsville---------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.55
EepC2:							
Elkinsville---------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
EepGQ:							
Elkinsville---------	86	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00				
EesA:							
Elkinsville---------	52	Not limited		Not limited		Not limited	
Millstone-----------	43	Not limited		Not limited		Not limited	
EesB:							
Elkinsville---------	55	Not limited		Not limited		Somewhat limited	
						Slope	0.55
Millstone-----------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.55
EesC2:							
Elkinsville---------	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Millstone-----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
EesFQ:							
Elkinsville---------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00				
Millstone----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00				
GacAW:							
Gatchel------------	88	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
GbgB2:							
Gatton-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
						Slope	0.55
GbgC2:							
Gatton-------------	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
GbgC3:							
Gatton-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
GfcF:							
Gilpin-------------	27	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.16
Tipsaw-------------	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.65
Ebal---------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
GgbG:							
Gilwood------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.29
						Gravel content	0.22
Brownstown---------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
GmaG:							
Gnawbone-----------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.01

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
GmaG:							
Kurtz	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
HcaA:							
Hatfield	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
HcgAH:							
Haymond	85	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
HcgAW:							
Haymond	80	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
HcpAP:							
Haymond	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
HufAH:							
Huntington	90	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
HufAK:							
Huntington	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
JoaA:							
Johnsburg	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.88	Slow water movement	0.88	Slow water movement	0.88
KunAW:							
Kintner	95	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
KxkC2:							
Knobcreek	37	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.84	Slow water movement	0.84	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.84
Navilleton	35	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.96
KxlC3:							
Knobcreek	33	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.84	Slow water movement	0.84	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.84

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
KxlC3:							
Haggatt	26	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
Caneyville	24	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
						Depth to bedrock	0.90
		Slope	0.04	Slope	0.04	Slow water movement	0.21
KxlE3:							
Knobcreek	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.84	Slow water movement	0.84	Slow water movement	0.84
Haggatt	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Caneyville	21	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Depth to bedrock	0.90
						Slow water movement	0.21
KxmE2:							
Knobcreek	33	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.84	Slow water movement	0.84	Slow water movement	0.84
Haggatt	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Caneyville	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.06
KxoC2:							
Knobcreek	29	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.84	Slow water movement	0.84	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.84
Navilleton	28	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
						Slow water movement	0.96
Haggatt	27	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
KxpD2:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.84	Slow water movement	0.84	Slow water movement	0.84
Haggatt------------	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Caneyville----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.06
KxrC3:							
Knobcreek-----------	29	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.84	Slow water movement	0.84	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.84
Navilleton----------	28	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
						Slow water movement	0.96
Haggatt------------	27	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
KxsD3:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.84	Slow water movement	0.84	Slow water movement	0.84
Haggatt------------	31	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Caneyville----------	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.06
KxtC2:							
Knobcreek-----------	23	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.84	Slow water movement	0.84	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.84
Haggatt------------	22	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
KxtC2:							
Caneyville----------	18	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
						Depth to bedrock	0.06
KxtC3:							
Knobcreek-----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.84	Slow water movement	0.84	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.84
Haggatt-------------	22	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Caneyville----------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.84	Slope	0.84	Slope	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Depth to bedrock	0.06
LaaA:							
Laconia-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
LpoAK:							
Lindside------------	82	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98			Flooding	0.60
LpoAQ:							
Lindside------------	86	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98				
McnGQ:							
Markland------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00	Slow water movement	0.43	Slow water movement	0.43
		Slow water movement	0.43				
MdlD2:							
Markland------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
MdwD3:							
Markland------------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
MhuA:							
McGary	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
NbhAK:							
Newark	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
NbhAQ:							
Newark	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.96	Slow water movement	0.96
		Slow water movement	0.96				
NprAQ:							
Nolin	80	Very limited		Not limited		Not limited	
		Flooding	1.00				
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
PcrB2:							
Pekin	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
						Slope	0.55
PhwB2:							
Percell	92	Not limited		Not limited		Somewhat limited	
						Slope	0.55
Pml:							
Pits, quarry	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel	80	Not rated		Not rated		Not rated	
RmcE:							
Riney	86	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
ScbA:							
Sciotoville	88	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
ScbB2:							
Sciotoville	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Slow water movement	0.88	Depth to saturated zone	0.98
		Slow water movement	0.88	Depth to saturated zone	0.75	Slow water movement	0.88
						Slope	0.15
SfyB:							
Shircliff	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Slow water movement	0.43	Slow water movement	0.43	Slope	0.55
						Slow water movement	0.43
Uaa:							
Udorthents	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land	60	Not rated		Not rated		Not rated	
Elkinsville	20	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.15
Haymond	15	Very limited		Not limited		Not limited	
		Flooding	1.00				
UflC:							
Urban land	60	Not rated		Not rated		Not rated	
Crider	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Vertrees	15	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
		Slope	0.04	Slope	0.04	Slow water movement	0.21
UnsB:							
Urban land	50	Not rated		Not rated		Not rated	
Udarents	30	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.22	Slow water movement	0.22	Slope	1.00
						Slow water movement	0.22
Usl:							
Udorthents	100	Not rated		Not rated		Not rated	

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
VcaC3:							
Vertrees	40	Somewhat limited Slow water movement Gravel content Slope	 0.21 0.06 0.04	Somewhat limited Slow water movement Gravel content Slope	 0.21 0.06 0.04	Very limited Slope Gravel content Slow water movement	 1.00 1.00 0.21
Crider	30	Somewhat limited Slope	 0.04	Somewhat limited Slope	 0.04	Very limited Slope	 1.00
Caneyville	20	Somewhat limited Slope Slow water movement	 0.84 0.21	Somewhat limited Slope Slow water movement	 0.84 0.21	Very limited Slope Slow water movement Depth to bedrock	 1.00 0.21 0.06
VcbD2:							
Vertrees	35	Very limited Slope Slow water movement	 1.00 0.21	Very limited Slope Slow water movement	 1.00 0.21	Very limited Slope Slow water movement	 1.00 0.21
Crider	25	Very limited Slope	 1.00	Very limited Slope	 1.00	Very limited Slope	 1.00
Caneyville	15	Very limited Slope Slow water movement	 1.00 0.21	Very limited Slope Slow water movement	 1.00 0.21	Very limited Slope Slow water movement Depth to bedrock	 1.00 0.21 0.06
VccD3:							
Vertrees	35	Very limited Slope Slow water movement Gravel content	 1.00 0.21 0.06	Very limited Slope Slow water movement Gravel content	 1.00 0.21 0.06	Very limited Slope Gravel content Slow water movement	 1.00 1.00 0.21
Haggatt	25	Very limited Slope	 1.00	Very limited Slope	 1.00	Very limited Slope	 1.00
Caneyville	20	Very limited Slope Slow water movement	 1.00 0.21	Very limited Slope Slow water movement	 1.00 0.21	Very limited Slope Slow water movement Depth to bedrock	 1.00 0.21 0.06
W:							
Water	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur	50	Very limited Ponding Depth to saturated zone	 1.00 0.98	Very limited Ponding Depth to saturated zone	 1.00 0.75	Very limited Ponding Depth to saturated zone	 1.00 0.98
Newark	40	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00

Table 11.—Recreational Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
WycAQ:							
Woodmere------------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water movement	0.21	Slow water movement	0.21
		Slow water movement	0.21				

Table 11.—Recreational Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeoB2:							
Alford	86	Not limited		Not limited		Not limited	
AeoC2:							
Alford	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
AgzB:							
Apalona	47	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
Zanesville	31	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
BbhA:							
Bartle	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BcrAW:							
Beanblossom	89	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
BdoA:							
Bedford	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
BdoB:							
Bedford	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
BkeC2:							
Bloomfield	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.98	Too sandy	0.98	Too sandy	0.50
						Slope	0.16
						Droughty	0.01
Alvin	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.92	Too sandy	0.92	Slope	0.16
BuoA:							
Bromer	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BvsG:							
Brussels	65	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Large stones content	1.00

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
BvsG:							
Rock outcrop	25	Not rated		Not rated		Not rated	
CbrD2:							
Caneyville	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18			Depth to bedrock	0.06
Haggatt	30	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Knobcreek	15	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
CbsD3:							
Caneyville	40	Somewhat limited		Not limited		Very limited	
		Slope	0.18			Slope	1.00
						Depth to bedrock	0.20
						Large stones content	0.01
Haggatt	26	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
Knobcreek	17	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
CbxD4:							
Caneyville	35	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
						Depth to bedrock	0.20
						Large stones content	0.01
Haggatt	30	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
CcaG:							
Caneyville	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.20
Rock outcrop	15	Not rated		Not rated		Not rated	
CtaB:							
Crider	75	Not limited		Not limited		Not limited	
CteC2:							
Crider	50	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Vertrees	25	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
CtwB:							
Crider	39	Not limited		Not limited		Not limited	
Bedford	29	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Navilleton	28	Not limited		Not limited		Not limited	
DeaC2:							
Deuchars	28	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Apalona	23	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.19
						Slope	0.04
Wellston	23	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
DeaC3:							
Deuchars	28	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.19
						Slope	0.04
Apalona	23	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
Wellston	23	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
EbhD2:							
Ebal	25	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
Gilpin	20	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08			Depth to bedrock	0.16
Wellston	20	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
EbhD3:							
Ebal	25	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				
Gilpin	22	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08			Depth to bedrock	0.54
						Droughty	0.05
Wellston	21	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.08				

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
EepA:							
Elkinsville---------	95	Not limited		Not limited		Not limited	
EepB2:							
Elkinsville---------	95	Not limited		Not limited		Not limited	
EepC2:							
Elkinsville---------	90	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
EepGQ:							
Elkinsville---------	86	Very limited		Very limited		Very limited	
		Slope	1.00	Water erosion	1.00	Slope	1.00
		Water erosion	1.00	Slope	1.00		
EesA:							
Elkinsville---------	52	Not limited		Not limited		Not limited	
Millstone-----------	43	Not limited		Not limited		Not limited	
EesB:							
Elkinsville---------	55	Not limited		Not limited		Not limited	
Millstone-----------	40	Not limited		Not limited		Not limited	
EesC2:							
Elkinsville---------	50	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Millstone-----------	40	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
EesFQ:							
Elkinsville---------	60	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.14		
Millstone-----------	40	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.14		
GacAW:							
Gatchel-------------	88	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
GbgB2:							
Gatton--------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
GbgC2:							
Gatton--------------	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
GbgC3:							
Gatton--------------	85	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.04

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
GfcF:							
Gilpin	27	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.01	Slope	1.00
						Depth to bedrock	0.16
Tipsaw	22	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.01	Slope	1.00
						Depth to bedrock	0.65
						Droughty	0.22
Ebal	20	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.01	Slope	1.00
GgbG:							
Gilwood	45	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Slope	0.96	Slope	1.00
						Depth to bedrock	0.29
Brownstown	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Depth to bedrock	0.06
						Droughty	0.01
GmaG:							
Gnawbone	55	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Depth to bedrock	0.01
Kurtz	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.78		
HcaA:							
Hatfield	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
HcgAH:							
Haymond	85	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
HcgAW:							
Haymond	80	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
HcpAP:							
Haymond	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
HufAH:							
Huntington	90	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
HufAK:							
Huntington	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
JoaA:							
Johnsburg	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
KunAW:							
Kintner	95	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
KxkC2:							
Knobcreek	37	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Navilleton	35	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
KxlC3:							
Knobcreek	33	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Haggatt	26	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Caneyville	24	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.90
						Droughty	0.47
						Slope	0.04
						Large stones content	0.01
KxlE3:							
Knobcreek	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18				
Haggatt	22	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18				
Caneyville	21	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18			Depth to bedrock	0.90
						Droughty	0.24
KxmE2:							
Knobcreek	33	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18				
Haggatt	22	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18				
Caneyville	20	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18			Depth to bedrock	0.06
KxoC2:							
Knobcreek	29	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Navilleton	28	Not limited		Not limited		Not limited	
Haggatt	27	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
KxpD2:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Haggatt-------------	31	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Caneyville----------	30	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18			Depth to bedrock	0.06
KxrC3:							
Knobcreek-----------	29	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Navilleton----------	28	Not limited		Not limited		Not limited	
Haggatt-------------	27	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
KxsD3:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Haggatt-------------	31	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Caneyville----------	30	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18			Depth to bedrock	0.06
KxtC2:							
Knobcreek-----------	23	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Haggatt-------------	22	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Caneyville----------	18	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.06
						Slope	0.04
KxtC3:							
Knobcreek-----------	25	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Haggatt-------------	22	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Caneyville----------	20	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
						Depth to bedrock	0.06

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
LaaA:							
Laconia-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
LpoAK:							
Lindside------------	82	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
LpoAQ:							
Lindside------------	86	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
McnGQ:							
Markland------------	90	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	1.00	Slope	0.86		
MdlD2:							
Markland------------	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96
MdwD3:							
Markland------------	80	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.96
MhuA:							
McGary--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
NbhAK:							
Newark--------------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
NbhAQ:							
Newark--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
NprAQ:							
Nolin---------------	80	Not limited		Not limited		Not limited	
Omz:							
Orthents------------	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin---------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
PcrB2:							
Pekin---------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
PhwB2:							
Percell	92	Not limited		Not limited		Not limited	
Pml:							
Pits, quarry	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel	80	Not rated		Not rated		Not rated	
RmcE:							
Riney	86	Somewhat limited		Not limited		Very limited	
		Slope	0.98			Slope	1.00
ScbA:							
Sciotoville	88	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
ScbB2:							
Sciotoville	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
SfyB:							
Shircliff	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Uaa:							
Udorthents	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land	60	Not rated		Not rated		Not rated	
Elkinsville	20	Not limited		Not limited		Not limited	
Haymond	15	Not limited		Not limited		Not limited	
UflC:							
Urban land	60	Not rated		Not rated		Not rated	
Crider	20	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Vertrees	15	Not limited		Not limited		Somewhat limited	
						Slope	0.04
UnsB:							
Urban land	50	Not rated		Not rated		Not rated	
Udarents	30	Not limited		Not limited		Not limited	
Usl:							
Udorthents	100	Not rated		Not rated		Not rated	
VcaC3:							
Vertrees	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.06
						Slope	0.04

Table 11.—Recreational Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
VcaC3:							
Crider	30	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.04
Caneyville	20	Very limited		Very limited		Somewhat limited	
		Water erosion	1.00	Water erosion	1.00	Slope	0.84
						Depth to bedrock	0.06
						Large stones content	0.01
VcbD2:							
Vertrees	35	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Crider	25	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Caneyville	15	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18			Depth to bedrock	0.06
VccD3:							
Vertrees	35	Somewhat limited		Not limited		Very limited	
		Slope	0.02			Slope	1.00
						Gravel content	0.06
Haggatt	25	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.02				
Caneyville	20	Very limited		Very limited		Very limited	
		Water erosion	1.00	Water erosion	1.00	Slope	1.00
		Slope	0.18			Depth to bedrock	0.06
						Large stones content	0.01
W:							
Water	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Newark	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
WycAQ:							
Woodmere	90	Not limited		Not limited		Not limited	

Table 12.—Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AeoB2:										
Alford	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
AeoC2:										
Alford	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
AgzB:										
Apalona	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
Zanesville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
BbhA:										
Bartle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BcrAW:										
Beanblossom	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BdoA:										
Bedford	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
BdoB:										
Bedford	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BkeC2:										
Bloomfield	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Poor	Poor	Very poor.
Alvin	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BuoA:										
Bromer	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BvsG:										
Brussels	Very poor.	Very poor.	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
CbrD2:										
Caneyville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Haggatt	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Knobcreek	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CbsD3:										
Caneyville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Haggatt	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Knobcreek	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CbxD4:										
Caneyville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Haggatt	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CcaG:										
Caneyville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Rock outcrop.										
CtaB:										
Crider	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CteC2:										
Crider	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Vertrees	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CtwB:										
Crider	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
CtwB:										
Bedford----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Navilleton--------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
DeaC2:										
Deuchars----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Apalona-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Wellston----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
DeaC3:										
Deuchars----------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Apalona-----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Wellston----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
EbhD2:										
Ebal--------------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Gilpin------------	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Wellston----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
EbhD3:										
Ebal--------------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Gilpin------------	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Wellston----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
EepA:										
Elkinsville-------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
EepB2:										
Elkinsville-------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
EepC2:										
Elkinsville-------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
EepGQ:										
Elkinsville-------	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
EesA:										
Elkinsville-------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Millstone---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
EesB:										
Elkinsville-------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Millstone---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
EesC2:										
Elkinsville-------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Millstone---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
EesFQ:										
Elkinsville-------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Millstone---------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
GacAW:										
Gatchel-----------	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
GbgB2:										
Gatton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
GbgC2:										
Gatton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
GbgC3:										
Gatton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
GfcF:										
Gilpin	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Tipsaw	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Ebal	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
GgbG:										
Gilwood	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Brownstown	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
GmaG:										
Gnawbone	Very poor.	Very poor.	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Kurtz	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
HcaA:										
Hatfield	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
HcgAH:										
Haymond	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
HcgAW:										
Haymond	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
HcpAP:										
Haymond	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
HufAH:										
Huntington	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
HufAK:										
Huntington	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
JoaA:										
Johnsburg	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
KunAW:										
Kintner	Fair	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
KxkC2:										
Knobcreek	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Navilleton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
KxlC3:										
Knobcreek	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Haggatt	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Caneyville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
KxlE3:										
Knobcreek	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Haggatt	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Caneyville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
KxmE2:										
Knobcreek----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Haggatt------------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Caneyville---------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
KxoC2:										
Knobcreek----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Navilleton---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Haggatt------------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
KxpD2:										
Knobcreek----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Haggatt------------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Caneyville---------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
KxrC3:										
Knobcreek----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Navilleton---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Haggatt------------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
KxsD3:										
Knobcreek----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Haggatt------------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Caneyville---------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
KxtC2:										
Knobcreek----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Haggatt------------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Caneyville---------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
KxtC3:										
Knobcreek----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Haggatt------------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Caneyville---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
LaaA:										
Laconia------------	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
LpoAK:										
Lindside-----------	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
LpoAQ:										
Lindside-----------	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
McnGQ:										
Markland-----------	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MdlD2:										
Markland-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MdwD3:										
Markland-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MhuA:										
McGary-------------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
NbhAK:										
Newark-------------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
NbhAQ:										
Newark	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
NprAQ:										
Nolin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Omz.										
Orthents										
PcrA:										
Pekin	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
PcrB2:										
Pekin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
PhwB2:										
Percell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
Pml.										
Pits, quarry										
Ppu.										
Pits, sand and gravel										
RmcE:										
Riney	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
ScbA:										
Sciotoville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
ScbB2:										
Sciotoville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SfyB:										
Shircliff	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Uaa.										
Udorthents										

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
UekAQ:										
Urban land.										
Elkinsville-------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Haymond-----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UflC:										
Urban land.										
Crider------------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Vertrees----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
UnsB. Urban land-Udarents										
Usl. Udorthents										
VcaC3:										
Vertrees----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Crider------------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Caneyville--------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
VcbD2:										
Vertrees----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Crider------------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Caneyville--------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
VccD3:										
Vertrees----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 12.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
VccD3:										
Haggatt-----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Caneyville--------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
W.										
Water										
WbkAP:										
Wilbur------------	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
Newark------------	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
WycAQ:										
Woodmere----------	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.

Table 13.—Building Site Development, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeoB2:							
Alford----------------	86	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
AeoC2:							
Alford----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
AgzB:							
Apalona---------------	47	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
						Slope	0.01
Zanesville------------	31	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Depth to hard bedrock	0.05	Depth to saturated zone	0.39
						Slope	0.01
BbhA:							
Bartle----------------	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BcrAW:							
Beanblossom-----------	89	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.87		
BdoA:							
Bedford---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
BdoB:							
Bedford---------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
BkeC2:							
Bloomfield------------	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
Alvin-----------------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BuoA:							
Bromer	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.22			Shrink-swell	0.22
BvsG:							
Brussels	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	1.00	Large stones content	1.00	Large stones content	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Rock outcrop	25	Not rated		Not rated		Not rated	
CbrD2:							
Caneyville	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to hard bedrock	0.06
Haggatt	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.88		
Knobcreek	15	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
CbsD3:							
Caneyville	40	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.20	Slope	1.00	Depth to hard bedrock	0.20
Haggatt	26	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.96		
Knobcreek	17	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
CbxD4:							
Caneyville	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.20	Slope	0.84	Depth to hard bedrock	0.20
Haggatt	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.84	Depth to hard bedrock	0.96	Slope	1.00
				Slope	0.84		

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CcaG:							
Caneyville----------	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.20	Depth to hard bedrock	1.00	Depth to hard bedrock	0.20
Rock outcrop--------	15	Not rated		Not rated		Not rated	
CtaB:							
Crider--------------	75	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
CteC2:							
Crider--------------	50	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Vertrees------------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
CtwB:							
Crider--------------	39	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
						Slope	0.01
Bedford-------------	29	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
Navilleton----------	28	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
						Slope	0.01
DeaC2:							
Deuchars------------	28	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Slope	1.00
		Slope	0.04	Depth to saturated zone	1.00	Shrink-swell	0.50
				Slope	0.04		
Apalona-------------	23	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.39	Slope	0.04	Shrink-swell	0.50
		Slope	0.04			Depth to saturated zone	0.39
Wellston------------	23	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
DeaC3:							
Deuchars------------	28	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Shrink-swell	0.50
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.39

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
DeaC3:							
Apalona	23	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Shrink-swell	1.00	Depth to saturated zone	0.98
				Slope	0.04		
Wellston	23	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.04	Slope	1.00
		Slope	0.04			Shrink-swell	0.50
EbhD2:							
Ebal	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to saturated zone	1.00		
Gilpin	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.15	Slope	1.00	Depth to hard bedrock	0.15
Wellston	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
EbhD3:							
Ebal	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to saturated zone	1.00		
Gilpin	22	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.54	Slope	1.00	Depth to hard bedrock	0.54
Wellston	21	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
EepA:							
Elkinsville	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
EepB2:							
Elkinsville	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
EepC2:							
Elkinsville	90	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
EepGQ:							
Elkinsville----------	86	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
EesA:							
Elkinsville----------	52	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Millstone------------	43	Not limited		Not limited		Not limited	
EesB:							
Elkinsville----------	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.01
Millstone------------	40	Not limited		Not limited		Somewhat limited	
						Slope	0.01
EesC2:							
Elkinsville----------	50	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Millstone------------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
EesFQ:							
Elkinsville----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Millstone------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
GacAW:							
Gatchel--------------	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
GbgB2:							
Gatton---------------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.01
GbgC2:							
Gatton---------------	85	Somewhat limited		Very limited		Very limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
GbgC3:							
Gatton---------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
GfcF:							
Gilpin	27	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.15	Depth to hard bedrock	1.00	Depth to hard bedrock	0.15
Tipsaw	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.64		
Ebal	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	1.00		
GgbG:							
Gilwood	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
Brownstown	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones content	0.18	Depth to hard bedrock	1.00	Large stones content	0.18
		Depth to hard bedrock	0.06	Large stones content	0.18	Depth to hard bedrock	0.06
GmaG:							
Gnawbone	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.01		
Kurtz	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
HcaA:							
Hatfield	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
HcgAH:							
Haymond	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
HcgAW:							
Haymond	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
HcpAP:							
Haymomd	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
HufAH:							
Huntington----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
HufAK:							
Huntington----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
JoaA:							
Johnsburg-----------	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
KunAW:							
Kintner-------------	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	1.00		
				Depth to hard bedrock	0.61		
KxkC2:							
Knobcreek-----------	37	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Navilleton----------	35	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
KxlC3:							
Knobcreek-----------	33	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Haggatt-------------	26	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Depth to hard bedrock	0.96	Slope	1.00
				Slope	0.04		
Caneyville----------	24	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.90
KxlE3:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Haggatt-------------	22	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.96		

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
KxlE3:							
Caneyville----------	21	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.90	Slope	1.00	Depth to hard bedrock	0.90
KxmE2:							
Knobcreek-----------	33	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Haggatt-------------	22	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.88		
Caneyville----------	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to hard bedrock	0.06
KxoC2:							
Knobcreek-----------	29	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Navilleton----------	28	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Slope	0.90
						Shrink-swell	0.50
Haggatt-------------	27	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Depth to hard bedrock	0.88	Slope	1.00
				Slope	0.04		
KxpD2:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Haggatt-------------	31	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.88		
Caneyville----------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to hard bedrock	0.06
KxrC3:							
Knobcreek-----------	29	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
KxrC3:							
Navilleton	28	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Slope	0.90
						Shrink-swell	0.50
Haggatt	27	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Depth to hard bedrock	0.88	Slope	1.00
				Slope	0.04		
KxsD3:							
Knobcreek	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Haggatt	31	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.88		
Caneyville	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to hard bedrock	0.06
KxtC2:							
Knobcreek	23	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Haggatt	22	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Depth to hard bedrock	0.88	Slope	1.00
				Slope	0.04		
Caneyville	18	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Depth to hard bedrock	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Depth to hard bedrock	0.06
KxtC3:							
Knobcreek	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Haggatt	22	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Depth to hard bedrock	0.96	Slope	1.00
				Slope	0.04		
Caneyville	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Slope	0.84	Depth to hard bedrock	0.06

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
LaaA:							
Laconia	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	1.00	Shrink-swell	0.50
LpoAK:							
Lindside	82	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
LpoAQ:							
Lindside	86	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
McnGQ:							
Markland	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
MdlD2:							
Markland	80	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Slope	0.96	Shrink-swell	1.00
		Slope	0.96	Shrink-swell	0.50	Slope	1.00
MdwD3:							
Markland	80	Very limited		Somewhat limited		Very limited	
		Shrink-swell	1.00	Slope	0.96	Shrink-swell	1.00
		Slope	0.96	Shrink-swell	0.50	Slope	1.00
MhuA:							
McGary	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
NbhAK:							
Newark	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
NbhAQ:							
Newark	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
NprAQ:							
Nolin	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
PcrB2:							
Pekin	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
						Slope	0.01
PhwB2:							
Percell	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
						Slope	0.01
				Shrink-swell	0.50		
Pml:							
Pits, quarry	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel	80	Not rated		Not rated		Not rated	
RmcE:							
Riney	86	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
ScbA:							
Sciotoville	88	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
ScbB2:							
Sciotoville	75	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
SfyB:							
Shircliff	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
						Slope	0.01
Uaa:							
Udorthents	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land	60	Not rated		Not rated		Not rated	
Elkinsville	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
UekAQ:							
Haymond	15	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
UflC:							
Urban land	60	Not rated		Not rated		Not rated	
Crider	20	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Vertrees	15	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
UnsB:							
Urban land	50	Not rated		Not rated		Not rated	
Udarents	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.55
Usl:							
Udorthents	100	Not rated		Not rated		Not rated	
VcaC3:							
Vertrees	40	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.04	Slope	0.04	Slope	1.00
Crider	30	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Shrink-swell	1.00	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.50
Caneyville	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.84	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.06	Slope	0.84	Depth to hard bedrock	0.06
VcbD2:							
Vertrees	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
Crider	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Caneyville	15	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to hard bedrock	0.06
VccD3:							
Vertrees	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00

Table 13.—Building Site Development, Part I—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
VccD3:							
Haggatt	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Shrink-swell	1.00
				Depth to hard bedrock	0.96		
Caneyville	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.06	Slope	1.00	Depth to hard bedrock	0.06
W:							
Water	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Newark	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
WycAQ:							
Woodmere	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
				Shrink-swell	0.50		

Table 13.—Building Site Development, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
AeoB2:							
Alford--------------	86	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
AeoC2:							
Alford--------------	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.04
		Low strength	1.00	Slope	0.04		
		Shrink-swell	0.50				
		Slope	0.04				
AgzB:							
Apalona-------------	47	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Too clayey	0.24		
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.19				
Zanesville----------	31	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Depth to hard bedrock	0.05		
		Depth to saturated zone	0.19				
BbhA:							
Bartle--------------	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
BcrAW:							
Beanblossom---------	89	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.87	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
				Cutbanks cave	0.10		
BdoA:							
Bedford-------------	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	1.00		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BdoB:							
Bedford	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	1.00		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Shrink-swell	0.50				
BkeC2:							
Bloomfield	55	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.16	Cutbanks cave	1.00	Too sandy	0.50
				Slope	0.16	Slope	0.16
						Droughty	0.01
Alvin	40	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.16
		Slope	0.16	Slope	0.16		
BuoA:							
Bromer	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	0.22				
BvsG:							
Brussels	65	Very limited		Very limited		Very limited	
		Large stones content	1.00	Large stones content	1.00	Slope	1.00
		Slope	1.00	Slope	1.00	Large stones content	1.00
		Low strength	1.00	Cutbanks cave	0.10	Droughty	0.35
		Shrink-swell	0.50	Too clayey	0.02		
		Frost action	0.50				
Rock outcrop	25	Not rated		Not rated		Not rated	
CbrD2:							
Caneyville	35	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	0.06
		Slope	1.00	Too clayey	0.76		
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to hard bedrock	0.06				
Haggatt	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Depth to hard bedrock	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
Knobcreek	15	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	1.00				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CbsD3:							
Caneyville----------	40	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	0.20
		Slope	1.00	Too clayey	0.76	Large stones content	0.01
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to hard bedrock	0.20				
Haggatt-------------	26	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Depth to hard bedrock	0.96		
		Frost action	0.50	Cutbanks cave	0.10		
Knobcreek-----------	17	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	1.00				
CbxD4:							
Caneyville----------	35	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	0.84
		Shrink-swell	1.00	Slope	0.84	Depth to bedrock	0.20
		Slope	0.84	Too clayey	0.76	Droughty	0.01
		Frost action	0.50	Cutbanks cave	0.10	Large stones content	0.01
		Depth to hard bedrock	0.20				
Haggatt-------------	30	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.84
		Shrink-swell	1.00	Depth to hard bedrock	0.96		
		Slope	0.84	Slope	0.84		
		Frost action	0.50	Cutbanks cave	0.10		
CcaG:							
Caneyville----------	53	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Low strength	1.00	Slope	1.00	Depth to bedrock	0.20
		Shrink-swell	1.00	Too clayey	0.76		
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to hard bedrock	0.20				
Rock outcrop--------	15	Not rated		Not rated		Not rated	
CtaB:							
Crider--------------	75	Very limited		Very limited		Not limited	
		Frost action	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
CteC2:							
Crider--------------	50	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CteC2:							
Vertrees	25	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
CtwB:							
Crider	39	Very limited		Very limited		Not limited	
		Frost action	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Bedford	29	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	1.00		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Navilleton	28	Very limited		Very limited		Not limited	
		Frost action	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
DeaC2:							
Deuchars	28	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
		Low strength	1.00	Too clayey	0.76		
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Apalona	23	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Too clayey	0.24	Slope	0.04
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.19	Slope	0.04		
		Slope	0.04				
Wellston	23	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.04
		Low strength	1.00	Slope	0.04		
		Shrink-swell	0.50				
		Slope	0.04				
DeaC3:							
Deuchars	28	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Low strength	1.00	Too clayey	0.76	Slope	0.04
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.19	Slope	0.04		
		Slope	0.04				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
DeaC3:							
Apalona-------------	23	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.24	Slope	0.04
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Wellston------------	23	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.04
		Low strength	1.00	Slope	0.04		
		Shrink-swell	0.50				
		Slope	0.04				
EbhD2:							
Ebal----------------	25	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00		
		Slope	1.00	Too clayey	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
Gilpin--------------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	1.00	Depth to bedrock	0.16
		Depth to hard bedrock	0.15	Slope	1.00		
Wellston------------	20	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
EbhD3:							
Ebal----------------	25	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00		
		Slope	1.00	Too clayey	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
Gilpin--------------	22	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Depth to hard bedrock	0.54	Cutbanks cave	1.00	Depth to bedrock	0.54
		Frost action	0.50	Slope	1.00	Droughty	0.05
Wellston------------	21	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
EepA:							
Elkinsville---------	95	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
EepB2:							
Elkinsville---------	95	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
EepC2:							
Elkinsville---------	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.04
		Low strength	1.00	Slope	0.04		
		Shrink-swell	0.50				
		Slope	0.04				
EepGQ:							
Elkinsville---------	86	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
		Flooding	0.40				
EesA:							
Elkinsville---------	52	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Millstone-----------	43	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
EesB:							
Elkinsville---------	55	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Millstone-----------	40	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Cutbanks cave	0.10		
EesC2:							
Elkinsville---------	50	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	0.10	Slope	0.04
		Low strength	1.00	Slope	0.04		
		Shrink-swell	0.50				
		Slope	0.04				
Millstone-----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
EesFQ:							
Elkinsville---------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Flooding	0.40				
Millstone-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Flooding	0.40				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
GacAW:							
Gatchel	88	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Frost action	0.50	Cutbanks cave	0.10		
GbgB2:							
Gatton	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
GbgC2:							
Gatton	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10	Slope	0.04
		Depth to saturated zone	0.75	Slope	0.04		
		Slope	0.04				
GbgC3:							
Gatton	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10	Slope	0.04
		Depth to saturated zone	1.00	Slope	0.04		
		Slope	0.04				
GfcF:							
Gilpin	27	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.16
		Depth to hard bedrock	0.15	Cutbanks cave	1.00		
Tipsaw	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Depth to soft bedrock	0.64	Depth to bedrock	0.65
				Cutbanks cave	0.10	Droughty	0.22
Ebal	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00		
		Shrink-swell	1.00	Too clayey	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
GgbG:							
Gilwood	45	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.29
		Depth to hard bedrock	0.29	Cutbanks cave	0.10		

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
GgbG:							
Brownstown----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Frost action	0.50	Slope	1.00	Depth to bedrock	0.06
		Large stones content	0.18	Large stones content	0.18	Droughty	0.01
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
GmaG:							
Gnawbone------------	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Cutbanks cave	0.10	Depth to bedrock	0.01
		Low strength	1.00	Depth to soft bedrock	0.01		
Kurtz---------------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
HcaA:							
Hatfield------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
HcgAH:							
Haymond-------------	85	Very limited		Somewhat limited		Very limited	
		Frost action	1.00	Flooding	0.80	Flooding	1.00
		Flooding	1.00	Cutbanks cave	0.10		
HcgAW:							
Haymond-------------	80	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
HcpAP:							
Haymond-------------	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Frost action	1.00	Cutbanks cave	0.10		
HufAH:							
Huntington----------	90	Very limited		Somewhat limited		Very limited	
		Frost action	1.00	Flooding	0.80	Flooding	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
HufAK:							
Huntington----------	90	Very limited		Somewhat limited		Somewhat limited	
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
JoaA:							
Johnsburg-----------	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
KunAW:							
Kintner-------------	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Depth to saturated zone	1.00		
				Depth to hard bedrock	0.61		
				Flooding	0.60		
KxkC2:							
Knobcreek-----------	37	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Slope	0.04		
		Slope	0.04				
Navilleton----------	35	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
KxlC3:							
Knobcreek-----------	33	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Slope	0.04		
		Slope	0.04				
Haggatt-------------	26	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	1.00	Depth to hard bedrock	0.96		
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
Caneyville----------	24	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.90
		Shrink-swell	1.00	Too clayey	0.76	Droughty	0.24
		Depth to hard bedrock	0.90	Cutbanks cave	0.10	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
KxlE3:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	1.00				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
KxlE3:							
Haggatt-------------	22	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Depth to hard bedrock	0.96		
		Frost action	0.50	Cutbanks cave	0.10		
Caneyville----------	21	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	0.90
		Slope	1.00	Too clayey	0.76	Droughty	0.23
		Depth to hard bedrock	0.90	Cutbanks cave	0.10		
		Frost action	0.50				
KxmE2:							
Knobcreek-----------	33	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	1.00				
Haggatt-------------	22	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Depth to hard bedrock	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
Caneyville----------	20	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00	Slope	1.00	Depth to bedrock	0.06
		Slope	1.00	Too clayey	0.76		
		Frost action	0.50	Cutbanks cave	0.10		
		Depth to hard bedrock	0.06				
KxoC2:							
Knobcreek-----------	29	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Slope	0.04		
		Slope	0.04				
Navilleton----------	28	Very limited		Very limited		Not limited	
		Frost action	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Haggatt-------------	27	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	1.00	Depth to hard bedrock	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
KxpD2:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	1.00				
Haggatt-------------	31	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Depth to hard bedrock	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
Caneyville----------	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00			Depth to bedrock	0.06
		Slope	1.00	Slope	1.00		
		Frost action	0.50	Too clayey	0.76		
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
KxrC3:							
Knobcreek-----------	29	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Slope	0.04		
		Slope	0.04				
Navilleton----------	28	Very limited		Very limited		Not limited	
		Frost action	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Haggatt-------------	27	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	1.00	Depth to hard bedrock	0.88		
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.04	Slope	0.04		
KxsD3:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	1.00				
Haggatt-------------	31	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Depth to hard bedrock	0.88		
		Frost action	0.50	Cutbanks cave	0.10		

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
KxsD3:							
Caneyville----------	30	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00			Depth to bedrock	0.06
		Slope	1.00	Slope	1.00		
		Frost action	0.50	Too clayey	0.76		
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
KxtC2:							
Knobcreek-----------	23	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Slope	0.04		
		Slope	0.04				
Haggatt-------------	22	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	1.00	Depth to hard bedrock	0.88		
		Frost action	0.50				
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		
Caneyville----------	18	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.06
		Shrink-swell	1.00			Slope	0.04
		Frost action	0.50	Too clayey	0.76		
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
				Slope	0.04		
		Slope	0.04				
KxtC3:							
Knobcreek-----------	25	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Slope	0.04		
		Slope	0.04				
Haggatt-------------	22	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	1.00	Depth to hard bedrock	0.96		
		Frost action	0.50				
		Slope	0.04	Cutbanks cave	0.10		
				Slope	0.04		
Caneyville----------	20	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	0.84
		Shrink-swell	1.00			Depth to bedrock	0.06
		Slope	0.84	Slope	0.84		
		Frost action	0.50	Too clayey	0.76		
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
LaaA:							
Laconia-------------	75	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.12		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
LpoAK:							
Lindside	82	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
LpoAQ:							
Lindside	86	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Flooding	0.40				
McnGQ:							
Markland	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Frost action	0.50				
		Flooding	0.40				
MdlD2:							
Markland	80	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Shrink-swell	1.00	Too clayey	0.12		
		Slope	0.96	Cutbanks cave	0.10		
		Frost action	0.50				
MdwD3:							
Markland	80	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.96	Slope	0.96
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Slope	0.96	Too clayey	0.01		
		Frost action	0.50				
MhuA:							
McGary	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.12		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
NbhAK:							
Newark	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
NbhAQ:							
Newark	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
		Flooding	0.40				
NprAQ:							
Nolin	80	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Flooding	0.40				
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
PcrB2:							
Pekin	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
PhwB2:							
Percell	92	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Too clayey	0.24		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Pml:							
Pits, quarry	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel	80	Not rated		Not rated		Not rated	
RmcE:							
Riney	86	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Frost action	0.50				
ScbA:							
Sciotoville	88	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
ScbB2:							
Sciotoville---------	75	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
SfyB:							
Shircliff-----------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Shrink-swell	1.00	Too clayey	0.12		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
		Frost action	0.50				
Uaa:							
Udorthents----------	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land----------	60	Not rated		Not rated		Not rated	
Elkinsville---------	20	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
		Flooding	0.40				
Haymond-------------	15	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Flooding	0.40				
UflC:							
Urban land----------	60	Not rated		Not rated		Not rated	
Crider--------------	20	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
Vertrees------------	15	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.04
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
UnsB:							
Urban land----------	50	Not rated		Not rated		Not rated	
Udarents------------	30	Very limited		Very limited		Not limited	
		Shrink-swell	1.00	Cutbanks cave	1.00		
		Low strength	1.00	Too clayey	0.50		
		Frost action	0.50				
Usl:							
Udorthents----------	100	Not rated		Not rated		Not rated	

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
VcaC3:							
Vertrees	40	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Gravel content	0.06
		Shrink-swell	1.00	Cutbanks cave	0.10	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
Crider	30	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Too clayey	1.00	Slope	0.04
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Slope	0.04		
		Slope	0.04				
Caneyville	20	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	0.84
		Shrink-swell	1.00			Depth to bedrock	0.06
		Slope	0.84	Slope	0.84	Large stones content	0.01
		Frost action	0.50	Too clayey	0.76		
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
VcbD2:							
Vertrees	35	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Cutbanks cave	0.10		
		Frost action	0.50				
Crider	25	Very limited		Very limited		Very limited	
		Frost action	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Caneyville	15	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00			Depth to bedrock	0.06
		Slope	1.00	Slope	1.00		
		Frost action	0.50	Too clayey	0.76		
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
VccD3:							
Vertrees	35	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00	Gravel content	0.06
		Slope	1.00	Cutbanks cave	0.10		
		Frost action	0.50				
Haggatt	25	Very limited		Very limited		Very limited	
		Low strength	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Too clayey	1.00		
		Slope	1.00	Depth to hard bedrock	0.96		
		Frost action	0.50				
				Cutbanks cave	0.10		

Table 13.—Building Site Development, Part II—Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
VccD3:							
Caneyville----------	20	Very limited		Very limited		Very limited	
		Low strength	1.00	Depth to hard bedrock	1.00	Slope	1.00
		Shrink-swell	1.00			Depth to bedrock	0.06
		Slope	1.00	Slope	1.00	Large stones content	0.01
		Frost action	0.50	Too clayey	0.76		
		Depth to hard bedrock	0.06	Cutbanks cave	0.10		
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur--------------	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
Newark--------------	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
WycAQ:							
Woodmere------------	90	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Flooding	0.40				

Table 14.—Sanitary Facilities, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AeoB2:					
Alford	86	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
AeoC2:					
Alford	90	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
		Slope	0.04	Seepage	0.53
AgzB:					
Apalona	47	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
Zanesville	31	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
		Depth to bedrock	0.47	Depth to hard bedrock	0.05
BbhA:					
Bartle	83	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
BcrAW:					
Beanblossom	89	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Depth to bedrock	0.59	Depth to soft bedrock	0.13
					0.13
BdoA:					
Bedford	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BdoB:					
Bedford	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
BkeC2:					
Bloomfield	55	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	1.00
		Slope	0.16		
Alvin	40	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.16	Slope	1.00
BuoA:					
Bromer	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
BvsG:					
Brussels	65	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Large stones content	1.00	Large stones content	1.00
		Slow water movement	0.46	Seepage	0.53
Rock outcrop	25	Not rated		Not rated	
CbrD2:					
Caneyville	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
Haggatt	30	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
Knobcreek	15	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
CbsD3:					
Caneyville	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CbsD3:					
Haggatt-------------	26	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.96
		Depth to bedrock	0.99	Seepage	0.53
Knobcreek-----------	17	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
CbxD4:					
Caneyville----------	35	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84	Seepage	1.00
Haggatt-------------	30	Somewhat limited		Very limited	1.00
		Depth to bedrock	0.99	Slope	
		Slope	0.84	Seepage	1.00
		Slow water movement	0.46	Depth to hard bedrock	0.96
CcaG:					
Caneyville----------	53	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	0.53
Rock outcrop--------	15	Not rated		Not rated	
CtaB:					
Crider--------------	75	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
CteC2:					
Crider--------------	50	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
		Slope	0.04	Seepage	0.53
Vertrees------------	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04		
CtwB:					
Crider--------------	39	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
Bedford-------------	29	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CtwB:					
Navilleton----------	28	Very limited		Somewhat limited	
		Slow water movement	1.00	Seepage	0.53
				Slope	0.35
DeaC2:					
Deuchars------------	28	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Depth to bedrock	0.18		
		Slope	0.04		
Apalona-------------	23	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Depth to saturated zone	0.65
		Depth to saturated zone	1.00		
				Seepage	0.53
		Slope	0.04		
Wellston------------	23	Somewhat limited		Very limited	
		Depth to bedrock	0.59	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
				Depth to soft bedrock	0.13
		Slope	0.04		
DeaC3:					
Deuchars------------	28	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Depth to saturated zone	0.75
		Depth to saturated zone	1.00		
				Seepage	0.53
		Depth to bedrock	0.18		
		Slope	0.04		
Apalona-------------	23	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
				Seepage	0.53
		Slope	0.04		
Wellston------------	23	Somewhat limited		Very limited	
		Depth to bedrock	0.78	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
				Depth to soft bedrock	0.42
		Slope	0.04		
EbhD2:					
Ebal----------------	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	1.00		

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
EbhD2:					
Gilpin--------------	20	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Wellston------------	20	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.59	Seepage	0.53
		Slow water movement	0.46	Depth to soft bedrock	0.13
EbhD3:					
Ebal----------------	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	1.00		
		Depth to bedrock	0.04		
Gilpin--------------	22	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Wellston------------	21	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.78	Seepage	0.53
		Slow water movement	0.46	Depth to soft bedrock	0.42
EepA:					
Elkinsville---------	95	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
EepB2:					
Elkinsville---------	95	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
EepC2:					
Elkinsville---------	90	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
		Slope	0.04	Seepage	0.53
EepGQ:					
Elkinsville---------	86	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
		Flooding	0.40	Flooding	0.40

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
EesA:					
Elkinsville---------	52	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
Millstone-----------	43	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
EesB:					
Elkinsville---------	55	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
Millstone-----------	40	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.35
EesC2:					
Elkinsville---------	50	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
				Seepage	0.53
		Slope	0.04		
Millstone-----------	40	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
				Seepage	0.53
		Slope	0.04		
EesFQ:					
Elkinsville---------	60	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
				Flooding	0.40
		Flooding	0.40		
Millstone-----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
				Flooding	0.40
		Flooding	0.40		
GacAW:					
Gatchel-------------	88	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00		
GbgB2:					
Gatton--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
GbgC2:					
Gatton	85	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Seepage	0.53
GbgC3:					
Gatton	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
GfcF:					
Gilpin	27	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Tipsaw	22	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Ebal	20	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Slope	1.00		
		Depth to bedrock	0.04		
GgbG:					
Gilwood	45	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Brownstown	35	Very limited		Very limited	
		Slope	1.00	Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00
		Large stones content	0.18		
GmaG:					
Gnawbone	55	Very limited		Very limited	
		Slope	1.00	Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
GmaG:					
Kurtz	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.89	Depth to soft bedrock	0.71
		Slow water movement	0.46	Seepage	0.53
HcaA:					
Hatfield	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
HcgAH:					
Haymond	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53
HcgAW:					
Haymond	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53
HcpAP:					
Haymond	86	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Slow water movement	0.46	Seepage	0.53
HufAH:					
Huntington	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53
HufAK:					
Huntington	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.46	Seepage	0.53
JoaA:					
Johnsburg	92	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
KunAW:					
Kintner	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Depth to hard bedrock	0.61
		Depth to bedrock	0.86		

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
KxkC2:					
Knobcreek-----------	37	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
Navilleton----------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
KxlC3:					
Knobcreek-----------	33	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
Haggatt-------------	26	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to bedrock	0.99	Depth to hard bedrock	0.96
		Slope	0.04		0.96
				Seepage	0.53
Caneyville----------	24	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
KxlE3:					
Knobcreek-----------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
Haggatt-------------	22	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.96
		Depth to bedrock	0.99	Seepage	0.53
Caneyville----------	21	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	1.00
KxmE2:					
Knobcreek-----------	33	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
Haggatt-------------	22	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Depth to hard bedrock	0.88
		Depth to bedrock	0.96	Seepage	0.53

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
KxmE2:					
Caneyville----------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
KxoC2:					
Knobcreek-----------	29	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Slope	0.04		
Navilleton----------	28	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
Haggatt-------------	27	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slope	0.04		
KxpD2:					
Knobcreek-----------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Slope	1.00		
Haggatt-------------	31	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	1.00
		Slope	1.00	Depth to hard bedrock	0.88
		Depth to bedrock	0.96		
Caneyville----------	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
KxrC3:					
Knobcreek-----------	29	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
		Slope	0.04		
Navilleton----------	28	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	0.53
Haggatt-------------	27	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
				Seepage	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
		Slope	0.04		

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
KxsD3:					
Knobcreek	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
Haggatt	31	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
		Depth to bedrock	0.96	Depth to hard bedrock	0.88
Caneyville	30	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
KxtC2:					
Knobcreek	23	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
Haggatt	22	Somewhat limited		Very limited	
		Depth to bedrock	0.96	Slope	1.00
		Slow water movement	0.46	Seepage	1.00
		Slope	0.04	Depth to hard bedrock	0.88
Caneyville	18	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.04	Seepage	1.00
KxtC3:					
Knobcreek	25	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04	Seepage	0.53
Haggatt	22	Somewhat limited		Very limited	
		Depth to bedrock	0.99	Slope	1.00
		Slow water movement	0.46	Seepage	1.00
		Slope	0.04	Depth to hard bedrock	0.96
Caneyville	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84	Seepage	1.00
LaaA:					
Laconia	75	Very limited		Very limited	
		Slow water movement	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LpoAK:					
Lindside-----------	82	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
LpoAQ:					
Lindside-----------	86	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.98
				Flooding	0.40
		Flooding	0.40		
McnGQ:					
Markland------------	90	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00	Flooding	0.40
		Flooding	0.40		
MdlD2:					
Markland------------	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.96		
MdwD3:					
Markland------------	80	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.96		
MhuA:					
McGary--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
NbhAK:					
Newark--------------	80	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
NbhAQ:					
Newark--------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Flooding	0.40
		Flooding	0.40		

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
NprAQ:					
Nolin	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
Omz:					
Orthents	100	Not rated		Not rated	
PcrA:					
Pekin	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
PcrB2:					
Pekin	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
PhwB2:					
Percell	92	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Slope	0.35
		Slow water movement	1.00	Seepage	0.28
				Depth to saturated zone	0.19
Pml:					
Pits, quarry	85	Not rated		Not rated	
Ppu:					
Pits, sand and gravel	80	Not rated		Not rated	
RmcE:					
Riney	86	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	1.00	Seepage	0.53
		Slow water movement	0.46		
ScbA:					
Sciotoville	88	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
ScbB2:					
Sciotoville	75	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.10

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
SfyB:					
Shircliff-----------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
				Slope	0.35
Uaa:					
Udorthents----------	90	Not rated		Not rated	
UekAQ:					
Urban land----------	60	Not rated		Not rated	
Elkinsville---------	20	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Flooding	0.40
		Flooding	0.40	Slope	0.10
Haymond-------------	15	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Flooding	0.40
		Flooding	0.40		
UflC:					
Urban land----------	60	Not rated		Not rated	
Crider--------------	20	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
				Seepage	0.53
		Slope	0.04		
Vertrees------------	15	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04		
UnsB:					
Urban land----------	50	Not rated		Not rated	
Udarents------------	30	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.94
Usl:					
Udorthents----------	100	Not rated		Not rated	
VcaC3:					
Vertrees------------	40	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.04		
Crider--------------	30	Somewhat limited		Very limited	
		Slow water movement	0.46	Slope	1.00
				Seepage	0.53
		Slope	0.04		

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
VcaC3:					
Caneyville----------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84	Seepage	1.00
VcbD2:					
Vertrees-----------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Crider--------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Caneyville----------	15	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
VccD3:					
Vertrees-----------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	1.00		
Haggatt-------------	25	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Depth to bedrock	0.99	Seepage	1.00
		Slow water movement	0.46	Depth to hard bedrock	0.96
Caneyville----------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00	Seepage	1.00
W:					
Water---------------	100	Not rated		Not rated	
WbkAP:					
Wilbur--------------	50	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
Newark--------------	40	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53

Table 14.—Sanitary Facilities, Part I—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
WycAQ:					
Woodmere	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	0.40
		Flooding	0.40	Seepage	0.21

Table 14.—Sanitary Facilities, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AeoB2:							
Alford	86	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
AeoC2:							
Alford	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too clayey	0.50	Slope	0.04	Too clayey	0.50
		Slope	0.04			Slope	0.04
AgzB:							
Apalona	47	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
Zanesville	31	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Depth to bedrock	0.05	Depth to bedrock	0.05
BbhA:							
Bartle	83	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BcrAW:							
Beanblossom	89	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	0.79
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.14
		Seepage, bottom layer	1.00	Depth to bedrock	0.14	Depth to saturated zone	0.01
BdoA:							
Bedford	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
BdoB:							
Bedford	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
BkeC2:							
Bloomfield	55	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	0.50	Slope	0.16	Too sandy	0.50
		Slope	0.16			Slope	0.16

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Trench sanitary landfill: Value	Area sanitary landfill: Rating class and limiting features	Area sanitary landfill: Value	Daily cover for landfill: Rating class and limiting features	Daily cover for landfill: Value
BkeC2:							
Alvin	40	Very limited		Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.52
		Too sandy	0.50	Slope	0.16	Too sandy	0.50
		Slope	0.16			Slope	0.16
BuoA:							
Bromer	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
BvsG:							
Brussels	65	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Large stones	1.00			Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Large stones	1.00
Rock outcrop	25	Not rated		Not rated		Not rated	
CbrD2:							
Caneyville	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Seepage	1.00	Depth to bedrock	1.00
						Slope	1.00
Haggatt	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.88	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.88
Knobcreek	15	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
CbsD3:							
Caneyville	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00
Haggatt	26	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.96	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.96
Knobcreek	17	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
CbxD4:							
Caneyville----------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
		Slope	0.84	Slope	0.84	Depth to bedrock	1.00
						Slope	0.84
Haggatt-------------	30	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96	Too clayey	1.00
		Too clayey	1.00	Slope	0.84	Hard to compact	1.00
		Slope	0.84			Depth to bedrock	0.96
						Slope	0.84
CcaG:							
Caneyville----------	53	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to bedrock	1.00
Rock outcrop--------	15	Not rated		Not rated		Not rated	
CtaB:							
Crider--------------	75	Very limited		Not limited		Somewhat limited	
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
CteC2:							
Crider--------------	50	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Slope	0.04	Too clayey	0.50
		Too clayey	0.50			Slope	0.04
		Slope	0.04				
Vertrees------------	25	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
CtwB:							
Crider--------------	39	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
		Depth to bedrock	1.00			Hard to compact	1.00
Bedford-------------	29	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
Navilleton----------	28	Very limited		Not limited		Very limited	
		Too clayey	1.00			Hard to compact	1.00
						Too clayey	0.50
DeaC2:							
Deuchars------------	28	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to bedrock	1.00	Slope	0.04	Hard to compact	1.00
		Depth to saturated zone	0.86			Depth to saturated zone	0.47
		Slope	0.04			Slope	0.04

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DeaC2:							
Apalona	23	Very limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
		Slope	0.04	Slope	0.04	Slope	0.04
Wellston	23	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.14	Depth to bedrock	0.14
		Slope	0.04	Slope	0.04	Slope	0.04
DeaC3:							
Deuchars	28	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to bedrock	1.00	Slope	0.04	Hard to compact	1.00
		Depth to saturated zone	1.00			Depth to saturated zone	0.86
		Slope	0.04			Slope	0.04
Apalona	23	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Depth to saturated zone	1.00
						Slope	0.04
Wellston	23	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Depth to bedrock	0.42	Depth to bedrock	0.42
		Slope	0.04	Slope	0.04	Slope	0.04
EbhD2:							
Ebal	25	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00	Depth to saturated zone	0.19	Hard to compact	1.00
		Depth to saturated zone	0.86			Slope	1.00
						Depth to saturated zone	0.47
Gilpin	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.38
Wellston	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.14	Depth to bedrock	0.14
EbhD3:							
Ebal	25	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00	Depth to saturated zone	0.19	Hard to compact	1.00
		Depth to bedrock	1.00			Slope	1.00
		Depth to saturated zone	0.86			Depth to saturated zone	0.47
Gilpin	22	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.48

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
EbhD3:							
Wellston	21	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Slope	1.00
		Slope	1.00	Depth to bedrock	0.42	Depth to bedrock	0.42
EepA:							
Elkinsville	95	Not limited		Not limited		Not limited	
EepB2:							
Elkinsville	95	Not limited		Not limited		Not limited	
EepC2:							
Elkinsville	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
EepGQ:							
Elkinsville	86	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	0.40	Flooding	0.40		
EesA:							
Elkinsville	52	Not limited		Not limited		Somewhat limited	
						Too clayey	0.50
Millstone	43	Not limited		Not limited		Not limited	
EesB:							
Elkinsville	55	Not limited		Not limited		Not limited	
Millstone	40	Not limited		Not limited		Not limited	
EesC2:							
Elkinsville	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
Millstone	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.04	Slope	0.04	Slope	0.04
EesFQ:							
Elkinsville	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	0.40	Flooding	0.40		
Millstone	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Flooding	0.40	Flooding	0.40		
GacAW:							
Gatchel	88	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Gravel content	0.92
GbgB2:							
Gatton	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GbgC2:							
Gatton	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
GbgC3:							
Gatton	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.04	Slope	0.04	Slope	0.04
GfcF:							
Gilpin	27	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.36
Tipsaw	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
						Gravel content	0.07
Ebal	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00	Depth to saturated zone	0.19	Too clayey	1.00
		Depth to bedrock	1.00			Hard to compact	1.00
		Depth to saturated zone	0.86			Depth to saturated zone	0.47
GgbG:							
Gilwood	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Gravel content	0.14
Brownstown	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
		Seepage, bottom layer	1.00	Depth to bedrock	1.00	Seepage	0.52
		Large stones content	0.18			Large stones content	0.18
						Gravel content	0.01
GmaG:							
Gnawbone	55	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Too clayey	0.50
Kurtz	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	0.71	Depth to bedrock	0.71
		Too clayey	0.50			Too clayey	0.50
HcaA:							
Hatfield	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
HcgAH:							
Haymond-------------	85	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
HcgAW:							
Haymond-------------	80	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
HcpAP:							
Haymond-------------	86	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
HufAH:							
Huntington----------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Too clayey	0.50				
HufAK:							
Huntington----------	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
JoaA:							
Johnsburg-----------	92	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
KunAW:							
Kintner-------------	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.61
		Depth to bedrock	1.00	Seepage	1.00	Depth to saturated zone	0.47
		Seepage, bottom layer	1.00	Depth to bedrock	0.61	Gravel content	0.33
KxkC2:							
Knobcreek-----------	37	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
Navilleton----------	35	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Slope	0.04			Slope	0.04
KxlC3:							
Knobcreek-----------	33	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
Haggatt-------------	26	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.96
						Slope	0.04

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KxlC3:							
Caneyville----------	24	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	1.00
						Slope	0.04
KxlE3:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Haggatt-------------	22	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.96	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.96
Caneyville----------	21	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Seepage	1.00	Depth to bedrock	1.00
						Slope	1.00
KxmE2:							
Knobcreek-----------	33	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Haggatt-------------	22	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.88	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.88
Caneyville----------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00			Depth to bedrock	1.00
						Slope	1.00
KxoC2:							
Knobcreek-----------	29	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
Navilleton----------	28	Very limited		Not limited		Very limited	
		Too clayey	1.00			Hard to compact	1.00
		Depth to bedrock	1.00			Too clayey	0.50
Haggatt-------------	27	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.88	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.88
						Slope	0.04

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KxpD2:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Haggatt-------------	31	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.88	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.88
Caneyville----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Seepage	1.00	Depth to bedrock	1.00
						Slope	1.00
KxrC3:							
Knobcreek-----------	29	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
Navilleton----------	28	Very limited		Not limited		Very limited	
		Too clayey	1.00			Hard to compact	1.00
		Depth to bedrock	1.00			Too clayey	0.50
Haggatt-------------	27	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.88	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.88
						Slope	0.04
KxsD3:							
Knobcreek-----------	35	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Haggatt-------------	31	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.88	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.88
Caneyville----------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Seepage	1.00	Depth to bedrock	1.00
						Slope	1.00
KxtC2:							
Knobcreek-----------	23	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
KxtC2:							
Haggatt-------------	22	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.88	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.88
						Slope	0.04
Caneyville----------	18	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
		Slope	0.04	Slope	0.04	Depth to bedrock	1.00
						Slope	0.04
KxtC3:							
Knobcreek-----------	25	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
Haggatt-------------	22	Very limited		Somewhat limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	0.96	Too clayey	1.00
		Too clayey	1.00	Slope	0.04	Hard to compact	1.00
		Slope	0.04			Depth to bedrock	0.96
						Slope	0.04
Caneyville----------	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
		Slope	0.84	Slope	0.84	Depth to bedrock	1.00
						Slope	0.84
LaaA:							
Laconia-------------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Hard to compact	1.00
						Too clayey	0.50
LpoAK:							
Lindside------------	82	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
LpoAQ:							
Lindside------------	86	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40		
McnGQ:							
Markland------------	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
MdlD2:							
Markland	80	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.96	Too clayey	1.00
		Slope	0.96			Slope	0.96
MdwD3:							
Markland	80	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.96	Too clayey	1.00
		Slope	0.96			Slope	0.96
MhuA:							
McGary	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
NbhAK:							
Newark	80	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
NbhAQ:							
Newark	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Flooding	0.40	Too clayey	0.50
		Flooding	0.40				
NprAQ:							
Nolin	80	Very limited		Somewhat limited		Not limited	
		Seepage, bottom layer	1.00	Flooding	0.40		
		Flooding	0.40				
Omz:							
Orthents	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PcrB2:							
Pekin	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PhwB2:							
Percell	92	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.19	Depth to saturated zone	0.47
Pml:							
Pits, quarry	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel	80	Not rated		Not rated		Not rated	

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
RmcE:							
Riney	86	Very limited		Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00	Slope	1.00
		Slope	1.00				
ScbA:							
Sciotoville	88	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
ScbB2:							
Sciotoville	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
SfyB:							
Shircliff	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Depth to saturated zone	1.00
Uaa:							
Udorthents	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land	60	Not rated		Not rated		Not rated	
Elkinsville	20	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
Haymond	15	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
UflC:							
Urban land	60	Not rated		Not rated		Not rated	
Crider	20	Very limited		Somewhat limited		Somewhat limited	
		Depth to bedrock	1.00	Slope	0.04	Too clayey	0.50
		Too clayey	0.50			Slope	0.04
		Slope	0.04				
Vertrees	15	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
UnsB:							
Urban land	50	Not rated		Not rated		Not rated	
Udarents	30	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
						Gravel content	0.01
Usl:							
Udorthents	100	Not rated		Not limited		Not rated	

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
VcaC3:							
Vertrees	40	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Slope	0.04			Hard to compact	1.00
						Slope	0.04
Crider	30	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.04	Too clayey	1.00
		Depth to bedrock	1.00			Hard to compact	1.00
		Slope	0.04			Slope	0.04
Caneyville	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
		Slope	0.84	Slope	0.84	Depth to bedrock	1.00
						Slope	0.84
VcbD2:							
Vertrees	35	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Crider	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to bedrock	1.00			Too clayey	0.50
		Too clayey	0.50				
Caneyville	15	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Seepage	1.00	Depth to bedrock	1.00
						Slope	1.00
VccD3:							
Vertrees	35	Very limited		Very limited		Very limited	
		Too clayey	1.00	Slope	1.00	Too clayey	1.00
		Slope	1.00			Hard to compact	1.00
						Slope	1.00
Haggatt	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Slope	1.00	Too clayey	1.00
		Too clayey	1.00	Depth to bedrock	0.96	Hard to compact	1.00
		Slope	1.00			Slope	1.00
						Depth to bedrock	0.96
Caneyville	20	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Too clayey	1.00
		Too clayey	1.00	Slope	1.00	Hard to compact	1.00
		Slope	1.00	Seepage	1.00	Depth to bedrock	1.00
						Slope	1.00
W:							
Water	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14.—Sanitary Facilities, Part II—Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbkAP:							
Newark	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WycAQ:							
Woodmere	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50	Flooding	0.40	Depth to saturated zone	0.47
		Flooding	0.40				

Table 15.—Construction Materials, Part I

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
AeoB2:					
Alford	86	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AeoC2:					
Alford	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AgzB:					
Apalona	47	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Zanesville	31	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.15	Thickest layer	0.00
BbhA:					
Bartle	83	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BcrAW:					
Beanblossom	89	Fair		Poor	
		Thickest layer	0.66	Bottom layer	0.00
		Bottom layer	0.86	Thickest layer	0.00
BdoA:					
Bedford	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
BdoB:					
Bedford	85	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
BkeC2:					
Bloomfield	55	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.60
		Thickest layer	0.00	Thickest layer	0.63
Alvin	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.36
		Thickest layer	0.00	Bottom layer	0.49
BuoA:					
Bromer	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.74	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
BvsG:					
Brussels------------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	25	Not rated		Not rated	
CbrD2:					
Caneyville----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Knobcreek-----------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CbsD3:					
Caneyville----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	26	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Knobcreek-----------	17	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CbxD4:					
Caneyville----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CcaG:					
Caneyville----------	53	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop--------	15	Not rated		Not rated	
CtaB:					
Crider--------------	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
CteC2:					
Crider--------------	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
CteC2:					
Vertrees	25	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
CtwB:					
Crider	39	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bedford	29	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Navilleton	28	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
DeaC2:					
Deuchars	28	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Apalona	23	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Wellston	23	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.24	Thickest layer	0.00
DeaC3:					
Deuchars	28	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Apalona	23	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Wellston	23	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.24	Thickest layer	0.00
EbhD2:					
Ebal	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gilpin	20	Fair		Poor	
		Thickest layer	0.09	Bottom layer	0.00
		Bottom layer	0.77	Thickest layer	0.00
Wellston	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.24	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
EbhD3:					
Ebal	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gilpin	22	Fair		Poor	
		Thickest layer	0.23	Bottom layer	0.00
		Bottom layer	0.77	Thickest layer	0.00
Wellston	21	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.24	Thickest layer	0.00
EepA:					
Elkinsville	95	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
EepB2:					
Elkinsville	95	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
EepC2:					
Elkinsville	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
EepGQ:					
Elkinsville	86	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
EesA:					
Elkinsville	52	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Millstone	43	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
EesB:					
Elkinsville	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Millstone	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
EesC2:					
Elkinsville	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Millstone	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
EesFQ:					
Elkinsville---------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Millstone-----------	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
GacAW:					
Gatchel-------------	88	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.43	Bottom layer	0.32
GbgB2:					
Gatton--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GbgC2:					
Gatton--------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GbgC3:					
Gatton--------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GfcF:					
Gilpin--------------	27	Fair		Poor	
		Thickest layer	0.09	Bottom layer	0.00
		Bottom layer	0.77	Thickest layer	0.00
Tipsaw--------------	22	Fair		Poor	
		Thickest layer	0.11	Bottom layer	0.00
		Bottom layer	0.71	Thickest layer	0.00
Ebal----------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GgbG:					
Gilwood-------------	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.29	Thickest layer	0.00
Brownstown----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GmaG:					
Gnawbone------------	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kurtz---------------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
HcaA:					
Hatfield------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HcgAH:					
Haymond-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HcgAW:					
Haymond-------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HcpAP:					
Haymond-------------	86	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HufAH:					
Huntington----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HufAK:					
Huntington----------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
JoaA:					
Johnsburg-----------	92	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
KunAW:					
Kintner-------------	95	Fair		Fair	
		Thickest layer	0.49	Bottom layer	0.26
		Bottom layer	0.80	Thickest layer	0.26
KxkC2:					
Knobcreek-----------	37	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Navilleton----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KxlC3:					
Knobcreek-----------	33	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	26	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville----------	24	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
KxlE3:					
Knobcreek-----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	22	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville----------	21	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KxmE2:					
Knobcreek-----------	33	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	22	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Caneyville----------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KxoC2:					
Knobcreek-----------	29	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Navilleton----------	28	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	27	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
KxpD2:					
Knobcreek-----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt-------------	31	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Caneyville----------	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KxrC3:					
Knobcreek-----------	29	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Navilleton----------	28	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
KxrC3:					
Haggatt	27	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KxsD3:					
Knobcreek	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt	31	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KxtC2:					
Knobcreek	23	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt	22	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville	18	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KxtC3:					
Knobcreek	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haggatt	22	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LaaA:					
Laconia	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LpoAK:					
Lindside	82	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
LpoAQ:					
Lindside	86	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
McnGQ:					
Markland------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MdlD2:					
Markland------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MdwD3:					
Markland------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MhuA:					
McGary--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NbhAK:					
Newark--------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NbhAQ:					
Newark--------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
NprAQ:					
Nolin---------------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Omz:					
Orthents------------	100	Not rated		Not rated	
PcrA:					
Pekin---------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PcrB2:					
Pekin---------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PhwB2:					
Percell-------------	92	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pml:					
Pits, quarry--------	85	Not rated		Not rated	
Ppu:					
Pits, sand and gravel-------------	80	Not rated		Not rated	

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
RmcE:					
Riney	86	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.66
ScbA:					
Sciotoville	88	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
ScbB2:					
Sciotoville	75	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
SfyB:					
Shircliff	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Uaa:					
Udorthents	90	Not rated		Not rated	
UekAQ:					
Urban land	60	Not rated		Not rated	
Elkinsville	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Haymond	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UflC:					
Urban land	60	Not rated		Not rated	
Crider	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Vertrees	15	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
UnsB:					
Urban land	50	Not rated		Not rated	
Udarents	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.63	Thickest layer	0.00
Usl:					
Udorthents	100	Not rated		Not rated	
VcaC3:					
Vertrees	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00

Table 15.—Construction Materials, Part I—Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
VcaC3:					
Crider	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
VcbD2:					
Vertrees	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Crider	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Caneyville	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
VccD3:					
Vertrees	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Haggatt	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Caneyville	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
W:					
Water	100	Not rated		Not rated	
WbkAP:					
Wilbur	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Newark	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
WycAQ:					
Woodmere	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 15.—Construction Materials, Part II

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
AeoB2:							
Alford	86	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Organic matter content low	0.50	Shrink-swell	0.87		
		Water erosion	0.68				
AeoC2:							
Alford	90	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Organic matter content low	0.50	Shrink-swell	0.87	Slope	0.96
		Water erosion	0.68				
AgzB:							
Apalona	47	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.53
				Wetness depth	0.53	Too acid	0.92
		Too acid	0.16	Shrink-swell	0.97		
		Water erosion	0.37				
Zanesville	31	Fair		Fair		Fair	
		Organic matter content low	0.02	Low strength	0.22	Wetness depth	0.53
				Wetness depth	0.53	Too acid	0.68
		Too acid	0.16	Depth to bedrock	0.95		
		Water erosion	0.37				
BbhA:							
Bartle	83	Fair		Poor		Poor	
		Too acid	0.05	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.78	Too acid	0.41
		Water erosion	0.37				
BcrAW:							
Beanblossom	89	Fair		Fair		Poor	
		Organic matter content low	0.88	Depth to bedrock	0.87	Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Rock fragments	0.98
		Too acid	0.92				
BdoA:							
Bedford	85	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Wetness depth	0.14
		Organic matter content low	0.12	Wetness depth	0.14	Too acid	0.50
				Shrink-swell	0.78		
		Water erosion	0.37				
BdoB:							
Bedford	85	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Wetness depth	0.14
		Organic matter content low	0.12	Wetness depth	0.14	Too acid	0.50
				Shrink-swell	0.78		
		Water erosion	0.37				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BkeC2:							
Bloomfield	55	Poor		Good		Poor	
		Wind erosion	0.00			Too sandy	0.00
		Too sandy	0.00			Slope	0.84
		Organic matter content low	0.12				
		Too acid	0.88				
Alvin	40	Poor		Good		Fair	
		Wind erosion	0.00			Slope	0.84
		Organic matter content low	0.12			Too acid	0.99
		Too acid	0.61				
BuoA:							
Bromer	85	Fair		Poor		Poor	
		Too acid	0.12	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.18	Low strength	0.00	Hard to reclaim (rock fragments)	0.00
		Water erosion	0.37			Too acid	0.59
BvsG:							
Brussels	65	Poor		Poor		Poor	
		Cobble content	0.00	Slope	0.00	Too clayey	0.00
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.73	Cobble content	0.00	Hard to reclaim (rock fragments)	0.00
		Stone content	0.75	Stone content	0.84		
				Shrink-swell	0.87	Rock fragments	0.00
Rock outcrop	25	Not rated		Not rated		Not rated	
CbrD2:							
Caneyville	35	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Too acid	0.61	Low strength	0.00	Slope	0.00
		Droughty	0.67	Shrink-swell	0.12	Depth to bedrock	0.93
		Water erosion	0.90	Slope	0.82	Rock fragments	0.99
		Organic matter content low	0.92			Too acid	0.99
Haggatt	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.12	Slope	0.00
				Shrink-swell	0.23	Too acid	0.92
		Too acid	0.50	Slope	0.98		
		Water erosion	0.90				
Knobcreek	15	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Slope	0.00
				Slope	0.98	Too acid	0.88
		Too acid	0.20				
		Water erosion	0.68				
CbsD3:							
Caneyville	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.57	Depth to bedrock	0.00	Too clayey	0.00
		Depth to bedrock	0.79	Shrink-swell	0.23	Depth to bedrock	0.79
		Too acid	0.84	Slope	0.82	Rock fragments	0.99
		Water erosion	0.90				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CbsD3:							
Haggatt	26	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.04	Slope	0.00
		Too acid	0.50	Shrink-swell	0.14	Too acid	0.92
		Water erosion	0.99	Slope	0.92		
		Droughty	0.99				
Knobcreek	17	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.16	Slope	0.00
		Too acid	0.20	Slope	0.92	Too acid	0.88
		Water erosion	0.90				
CbxD4:							
Caneyville	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.01	Depth to bedrock	0.00	Slope	0.16
		Droughty	0.56	Shrink-swell	0.23	Depth to bedrock	0.79
		Depth to bedrock	0.79			Rock fragments	0.99
		Too acid	0.84				
Haggatt	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Depth to bedrock	0.04	Slope	0.16
		Organic matter content low	0.50	Shrink-swell	0.14	Too acid	0.92
		Droughty	0.98				
		Water erosion	0.99				
CcaG:							
Caneyville	53	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Droughty	0.72	Low strength	0.00	Too clayey	0.00
		Depth to bedrock	0.79	Depth to bedrock	0.00	Depth to bedrock	0.79
		Too acid	0.84	Shrink-swell	0.23	No rock fragments	0.99
		Water erosion	0.90				
Rock outcrop	15	Not rated		Not rated		Not rated	
CtaB:							
Crider	75	Fair		Poor		Fair	
		Organic matter content low	0.50	Low strength	0.00	Too clayey	0.64
		Too acid	0.54	Shrink-swell	0.66	Too acid	0.98
		Water erosion	0.68				
		Too clayey	0.98				
CteC2:							
Crider	50	Fair		Poor		Fair	
		Organic matter content low	0.50	Low strength	0.00	Too clayey	0.64
		Too acid	0.54	Shrink-swell	0.66	Slope	0.96
		Water erosion	0.68			Too acid	0.98
		Too clayey	0.98				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CteC2:							
Vertrees	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.24	Shrink-swell	0.12	Too acid	0.88
						Slope	0.96
		Too acid	0.32				
		Water erosion	0.99				
CtwB:							
Crider	39	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.64
				Shrink-swell	0.41	Too acid	0.98
		Too acid	0.54				
		Water erosion	0.68				
		Too clayey	0.98				
Bedford	29	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Wetness depth	0.14
		Organic matter content low	0.12	Wetness depth	0.14	Too acid	0.50
				Shrink-swell	0.78		
		Water erosion	0.37				
Navilleton	28	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too acid	0.98
				Shrink-swell	0.51		
		Too acid	0.32				
		Water erosion	0.68				
DeaC2:							
Deuchars	28	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Too acid	0.50
		Organic matter content low	0.12	Shrink-swell	0.41	Wetness depth	0.89
				Wetness depth	0.89	Slope	0.96
		Water erosion	0.68				
Apalona	23	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.53
				Wetness depth	0.53	Too acid	0.92
		Too acid	0.16	Shrink-swell	0.97	Slope	0.96
		Water erosion	0.37				
Wellston	23	Fair		Poor		Fair	
		Too acid	0.20	Low strength	0.00	Too acid	0.76
		Water erosion	0.37	Depth to bedrock	0.87	Slope	0.96
		Organic matter content low	0.50				
DeaC3:							
Deuchars	28	Fair		Poor		Fair	
		Too acid	0.08	Low strength	0.00	Too acid	0.50
		Organic matter content low	0.12	Shrink-swell	0.41	Wetness depth	0.53
				Wetness depth	0.53	Slope	0.96
		Water erosion	0.68				
Apalona	23	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
				Wetness depth	0.14	Too acid	0.68
		Too acid	0.16	Shrink-swell	0.87	Slope	0.96
		Water erosion	0.37				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
DeaC3:							
Wellston	23	Fair		Fair		Fair	
		Too acid	0.20	Depth to bedrock	0.58	Too acid	0.76
		Water erosion	0.37			Slope	0.96
		Organic matter content low	0.50				
EbhD2:							
Ebal	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.26	Slope	0.00
				Wetness depth	0.89	Too acid	0.88
		Too acid	0.16	Slope	0.92	Wetness depth	0.89
		Water erosion	0.99				
Gilpin	20	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.50	Slope	0.92	Rock fragments	0.00
						Depth to bedrock	0.84
		Droughty	0.57			Too acid	0.92
		Depth to bedrock	0.84				
		Water erosion	0.99				
Wellston	20	Fair		Poor		Poor	
		Too acid	0.20	Low strength	0.00	Slope	0.00
		Water erosion	0.37	Depth to bedrock	0.87	Too acid	0.76
		Organic matter content low	0.50	Slope	0.92		
EbhD3:							
Ebal	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.21	Slope	0.00
				Wetness depth	0.89	Too acid	0.88
		Too acid	0.26	Slope	0.92	Wetness depth	0.89
		Water erosion	0.99				
Gilpin	22	Fair		Poor		Poor	
		Droughty	0.12	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.46	Slope	0.92	Slope	0.00
		Too acid	0.50			Depth to bedrock	0.46
		Organic matter content low	0.50			Too acid	0.92
		Water erosion	0.99				
Wellston	21	Fair		Fair		Poor	
		Too acid	0.20	Depth to bedrock	0.58	Slope	0.00
		Water erosion	0.37	Slope	0.92	Too acid	0.76
		Organic matter content low	0.50				
EepA:							
Elkinsville	95	Fair		Poor		Good	
		Organic matter content low	0.50	Low strength	0.00		
				Shrink-swell	0.87		
		Too acid	0.88				
		Water erosion	0.90				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
EepB2:							
Elkinsville---------	95	Fair		Poor		Good	
		Organic matter content low	0.50	Low strength	0.00		
				Shrink-swell	0.87		
		Too acid	0.88				
		Water erosion	0.90				
EepC2:							
Elkinsville---------	90	Fair		Fair		Fair	
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.68
						Slope	0.96
		Too acid	0.16				
		Water erosion	0.90				
EepGQ:							
Elkinsville---------	86	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
				Shrink-swell	0.87	Too acid	0.92
		Too acid	0.32				
		Water erosion	0.90				
EesA:							
Elkinsville---------	52	Fair		Fair		Fair	
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.68
		Too acid	0.16				
		Water erosion	0.90				
Millstone-----------	43	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.68
		Too acid	0.16				
		Water erosion	0.90				
EesB:							
Elkinsville---------	55	Fair		Fair		Fair	
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.68
		Too acid	0.16				
		Water erosion	0.90				
Millstone-----------	40	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.68
		Too acid	0.16				
		Water erosion	0.90				
EesC2:							
Elkinsville---------	50	Fair		Fair		Fair	
		Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.68
						Slope	0.96
		Too acid	0.16				
		Water erosion	0.90				
Millstone-----------	40	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.68
						Slope	0.96
		Too acid	0.16				
		Water erosion	0.90				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
EesFQ:							
Elkinsville	60	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.16	Shrink-swell	0.87	Too acid	0.68
		Water erosion	0.90				
Millstone	40	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.16			Too acid	0.68
		Water erosion	0.90				
GacAW:							
Gatchel	88	Fair		Good		Poor	
		Organic matter content low	0.32			Rock fragments	0.00
		Too acid	0.95			Hard to reclaim (rock fragments)	0.00
		Too sandy	0.96			Too sandy	0.96
GbgB2:							
Gatton	90	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
		Water erosion	0.37	Wetness depth	0.14	Too acid	0.95
		Too acid	0.46				
GbgC2:							
Gatton	85	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
		Water erosion	0.37	Wetness depth	0.14	Too acid	0.95
		Too acid	0.46			Slope	0.96
GbgC3:							
Gatton	85	Fair		Poor		Poor	
		Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.00
		Water erosion	0.37	Wetness depth	0.00	Too acid	0.95
		Too acid	0.46			Slope	0.96
GfcF:							
Gilpin	27	Fair		Poor		Poor	
		Droughty	0.50	Depth to bedrock	0.00	Slope	0.00
		Too acid	0.50	Slope	0.00	Rock fragments	0.00
		Organic matter content low	0.50			Depth to bedrock	0.84
		Depth to bedrock	0.84			Too acid	0.92
		Water erosion	0.99				
Tipsaw	22	Fair		Poor		Poor	
		Droughty	0.03	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.35	Slope	0.00	Rock fragments	0.00
		Too acid	0.50			Depth to bedrock	0.35
		Organic matter content low	0.68			Too acid	0.50

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
GfcF:							
Ebal----------------	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Slope	0.00	Too clayey	0.00
		Too acid	0.16	Shrink-swell	0.25	Too acid	0.88
		Water erosion	0.99	Wetness depth	0.89	Wetness depth	0.89
GgbG:							
Gilwood-------------	45	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Too acid	0.50	Depth to bedrock	0.00	Rock fragments	0.00
		Depth to bedrock	0.71			Too acid	0.59
		Droughty	0.81			Depth to bedrock	0.71
		Water erosion	0.99				
Brownstown----------	35	Fair		Poor		Poor	
		Organic matter content low	0.12	Slope	0.00	Slope	0.00
		Droughty	0.20	Depth to bedrock	0.00	Rock fragments	0.00
		Too acid	0.50	Cobble content	0.51	Too acid	0.59
		Depth to bedrock	0.93			Depth to bedrock	0.93
		Cobble content	0.98				
GmaG:							
Gnawbone------------	55	Fair		Poor		Poor	
		Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
		Organic matter content low	0.50	Slope	0.00	Too acid	0.50
		Water erosion	0.68	Low strength	0.00	Depth to bedrock	0.99
		Depth to bedrock	0.99				
Kurtz---------------	35	Fair		Poor		Poor	
		Too acid	0.03	Slope	0.00	Slope	0.00
		Organic matter content low	0.50	Low strength	0.00	Too acid	0.50
				Depth to bedrock	0.29		
		Water erosion	0.90	Shrink-swell	0.87		
HcaA:							
Hatfield------------	90	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00	Too acid	0.82
		Too acid	0.26				
		Water erosion	0.68				
HcgAH:							
Haymond-------------	85	Fair		Good		Good	
		Water erosion	0.37				
		Too acid	0.95				
HcgAW:							
Haymond-------------	80	Fair		Good		Good	
		Water erosion	0.37				
		Too acid	0.99				
HcpAP:							
Haymond-------------	86	Fair		Good		Good	
		Water erosion	0.37				
		Too acid	0.97				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
HufAH:							
Huntington----------	90	Fair		Poor		Fair	
		Water erosion	0.90	Low strength	0.00	Too clayey	0.76
		Too clayey	0.98				
HufAK:							
Huntington----------	90	Fair		Poor		Good	
		Water erosion	0.99	Low strength	0.00		
JoaA:							
Johnsburg-----------	92	Fair		Poor		Poor	
		Too acid	0.12	Low strength	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Wetness depth	0.00	Too acid	0.59
		Water erosion	0.37				
KunAW:							
Kintner-------------	95	Fair		Fair		Poor	
		Organic matter content low	0.88	Depth to bedrock	0.39	Hard to reclaim (rock fragments)	0.00
				Wetness depth	0.89		
		Water erosion	0.99			Wetness depth	0.89
KxkC2:							
Knobcreek-----------	37	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Too acid	0.88
						Slope	0.96
		Too acid	0.20				
		Water erosion	0.68				
Navilleton----------	35	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Slope	0.96
				Shrink-swell	0.51	Too acid	0.98
		Too acid	0.32				
		Water erosion	0.68				
KxlC3:							
Knobcreek-----------	33	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.16	Too acid	0.88
						Slope	0.96
		Too acid	0.20				
		Water erosion	0.90				
Haggatt-------------	26	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.04	Too acid	0.92
				Shrink-swell	0.14	Slope	0.96
		Too acid	0.50				
		Water erosion	0.99				
		Droughty	0.99				
Caneyville----------	24	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.10
		Depth to bedrock	0.10	Shrink-swell	0.12	Slope	0.96
		Too acid	0.61			Rock fragments	0.97
		Organic matter content low	0.92			Too acid	0.99

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
KxlE3:							
Knobcreek-----------	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.16	Slope	0.00
		Too acid	0.20	Slope	0.82	Too acid	0.88
		Water erosion	0.90				
Haggatt-------------	22	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Too acid	0.50	Depth to bedrock	0.04	Too clayey	0.00
		Organic matter content low	0.50	Shrink-swell	0.14	Too acid	0.92
		Water erosion	0.99	Slope	0.82		
		Droughty	0.99				
Caneyville----------	21	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.02	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.10	Shrink-swell	0.12	Depth to bedrock	0.10
		Too acid	0.61	Slope	0.82	Too acid	0.99
		Water erosion	0.90				
KxmE2:							
Knobcreek-----------	33	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Too clayey	0.00
		Too acid	0.20	Slope	0.82	Too acid	0.88
		Water erosion	0.68				
Haggatt-------------	22	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.12	Slope	0.00
				Shrink-swell	0.23	Too acid	0.92
		Too acid	0.50	Slope	0.82		
		Water erosion	0.90				
Caneyville----------	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.61	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.67	Shrink-swell	0.12	Depth to bedrock	0.93
		Water erosion	0.90	Slope	0.82	Rock fragments	0.99
		Organic matter content low	0.92			Too acid	0.99
KxoC2:							
Knobcreek-----------	29	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Too acid	0.88
						Slope	0.96
		Too acid	0.20				
		Water erosion	0.68				
Navilleton----------	28	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too acid	0.98
				Shrink-swell	0.51		
		Too acid	0.32				
		Water erosion	0.68				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
KxoC2:							
Haggatt-------------	27	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Depth to bedrock	0.12	Too acid	0.92
		Organic matter content low	0.50	Shrink-swell	0.23	Slope	0.96
		Water erosion	0.90				
KxpD2:							
Knobcreek-----------	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Slope	0.00
		Too acid	0.20	Slope	0.98	Too acid	0.88
		Water erosion	0.68				
Haggatt-------------	31	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.50	Depth to bedrock	0.12	Too clayey	0.00
				Shrink-swell	0.23	Too acid	0.92
		Too acid	0.50	Slope	0.98		
		Water erosion	0.90				
Caneyville----------	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.61	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.67	Shrink-swell	0.12	Depth to bedrock	0.93
		Water erosion	0.90	Slope	0.82	Rock fragments	0.99
		Organic matter content low	0.92			Too acid	0.99
KxrC3:							
Knobcreek-----------	29	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Too acid	0.88
						Slope	0.96
		Too acid	0.20				
		Water erosion	0.68				
Navilleton----------	28	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Too acid	0.98
		Organic matter content low	0.50	Shrink-swell	0.51		
		Water erosion	0.68				
Haggatt-------------	27	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.50	Depth to bedrock	0.12	Too acid	0.92
		Organic matter content low	0.50	Shrink-swell	0.23	Slope	0.96
		Water erosion	0.90				
KxsD3:							
Knobcreek-----------	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Slope	0.00
		Too acid	0.20	Slope	0.98	Too acid	0.88
		Water erosion	0.68				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
KxsD3:							
Haggatt-------------	31	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.12	Slope	0.00
				Shrink-swell	0.23	Too acid	0.92
		Too acid	0.50	Slope	0.98		
		Water erosion	0.90				
Caneyville----------	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.60	Depth to bedrock	0.00	Too clayey	0.00
		Too acid	0.61	Shrink-swell	0.12	Depth to bedrock	0.93
		Water erosion	0.90	Slope	0.82	Rock fragments	0.99
		Organic matter content low	0.92			Too acid	0.99
KxtC2:							
Knobcreek-----------	23	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.22	Too acid	0.88
						Slope	0.96
		Too acid	0.20				
		Water erosion	0.68				
Haggatt-------------	22	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.12	Too acid	0.92
				Shrink-swell	0.23	Slope	0.96
		Too acid	0.50				
		Water erosion	0.90				
Caneyville----------	18	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Too acid	0.61	Depth to bedrock	0.00	Depth to bedrock	0.93
		Droughty	0.67	Shrink-swell	0.12	Slope	0.96
		Water erosion	0.90			Rock fragments	0.99
		Organic matter content low	0.92			Too acid	0.99
KxtC3:							
Knobcreek-----------	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.16	Too acid	0.88
						Slope	0.96
		Too acid	0.20				
		Water erosion	0.90				
Haggatt-------------	22	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.04	Too acid	0.92
				Shrink-swell	0.14	Slope	0.96
		Too acid	0.50				
		Droughty	0.99				
		Water erosion	0.99				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
KxtC3:							
Caneyville----------	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.60	Depth to bedrock	0.00	Slope	0.16
		Too acid	0.61	Shrink-swell	0.12	Depth to bedrock	0.93
		Water erosion	0.90			Rock fragments	0.99
		Organic matter content low	0.92			Too acid	0.99
LaaA:							
Laconia-------------	75	Fair		Poor		Poor	
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00	Too clayey	0.49
		Too acid	0.50	Shrink-swell	0.62	Too acid	0.95
		Too clayey	0.68				
		Water erosion	0.68				
LpoAK:							
Lindside------------	82	Fair		Poor		Fair	
		Water erosion	0.90	Low strength	0.00	Wetness depth	0.14
		Too acid	0.92	Wetness depth	0.14		
				Shrink-swell	0.95		
LpoAQ:							
Lindside------------	86	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Wetness depth	0.14
		Organic matter content low	0.50	Wetness depth	0.14	Too acid	0.88
		Water erosion	0.68				
McnGQ:							
Markland------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Slope	0.00	Slope	0.00
		Carbonate content	0.32	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.88	Shrink-swell	0.12		
		Too acid	0.88				
		Water erosion	0.90				
MdlD2:							
Markland------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Carbonate content	0.32	Shrink-swell	0.35	Slope	0.04
		Water erosion	0.68				
		Organic matter content low	0.88				
		Too acid	0.88				
MdwD3:							
Markland------------	80	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Carbonate content	0.46	Shrink-swell	0.39	Slope	0.04
		Organic matter content low	0.75				
		Too acid	0.88				
		Water erosion	0.99				

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MhuA:							
McGary--------------	90	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Wetness depth	0.00
		Carbonate content	0.32	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Shrink-swell	0.27		
		Water erosion	0.68				
NbhAK:							
Newark--------------	80	Fair		Poor		Poor	
		Water erosion	0.90	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
				Shrink-swell	0.87		
NbhAQ:							
Newark--------------	90	Fair		Poor		Poor	
		Organic matter content low	0.68	Low strength	0.00	Wetness depth	0.00
				Wetness depth	0.00		
		Too acid	0.92	Shrink-swell	0.87		
		Water erosion	0.99				
NprAQ:							
Nolin---------------	80	Fair		Poor		Fair	
		Too acid	0.32	Low strength	0.00	Too acid	0.88
		Water erosion	0.68				
		Organic matter content low	0.88				
Omz:							
Orthents------------	100	Not rated		Not rated		Not rated	
PcrA:							
Pekin---------------	90	Fair		Poor		Fair	
		Too acid	0.03	Low strength	0.00	Wetness depth	0.14
		Organic matter content low	0.12	Wetness depth	0.14	Too acid	0.76
		Water erosion	0.37				
PcrB2:							
Pekin---------------	85	Fair		Fair		Fair	
		Too acid	0.03	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.12			Too acid	0.32
		Water erosion	0.37				
PhwB2:							
Percell-------------	92	Fair		Poor		Fair	
		Organic matter content low	0.24	Low strength	0.00	Wetness depth	0.89
				Shrink-swell	0.75		
		Water erosion	0.68	Wetness depth	0.89		
		Too acid	0.74				
		Carbonate content	0.97				
Pml:							
Pits, quarry--------	85	Not rated		Not rated		Not rated	
Ppu:							
Pits, sand and gravel-------------	80	Not rated		Not rated		Not rated	

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
RmcE:							
Riney---------------	86	Fair		Fair		Poor	
		Organic matter content low	0.12	Slope	0.02	Slope	0.00
		Too acid	0.16	Shrink-swell	0.98	Too acid	0.68
ScbA:							
Sciotoville---------	88	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.20			Too acid	0.76
		Water erosion	0.68				
ScbB2:							
Sciotoville---------	75	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.20			Too acid	0.76
		Water erosion	0.68				
SfyB:							
Shircliff-----------	90	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.32	Shrink-swell	0.51		
		Water erosion	0.68				
		Carbonate content	0.68				
Uaa:							
Udorthents----------	90	Not rated		Not rated		Not rated	
UekAQ:							
Urban land----------	60	Not rated		Not rated		Not rated	
Elkinsville---------	20	Fair		Poor		Good	
		Organic matter content low	0.50	Low strength	0.00		
		Too acid	0.88	Shrink-swell	0.87		
		Water erosion	0.90				
Haymond-------------	15	Fair		Good		Good	
		Water erosion	0.37				
		Too acid	0.99				
UflC:							
Urban land----------	60	Not rated		Not rated		Not rated	
Crider--------------	20	Fair		Poor		Fair	
		Organic matter content low	0.50	Low strength	0.00	Too clayey	0.64
		Too acid	0.54	Shrink-swell	0.66	Slope	0.96
		Water erosion	0.68			Too acid	0.98
		Too clayey	0.98				
Vertrees------------	15	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.24	Shrink-swell	0.12	Too acid	0.88
		Too acid	0.32			Slope	0.96

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
UnsB:							
Urban land----------	50	Not rated		Not rated		Not rated	
Udarents------------	30	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.16	Rock fragments	0.00
		Too acid	0.50			Hard to reclaim (rock fragments)	0.68
						Too acid	0.88
Usl:							
Udorthents----------	100	Not rated		Not rated		Not rated	
VcaC3:							
Vertrees------------	40	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.24	Shrink-swell	0.12	Too acid	0.88
		Too acid	0.32			Slope	0.96
Crider--------------	30	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.64
		Too acid	0.54	Shrink-swell	0.41	Slope	0.96
		Water erosion	0.68			Too acid	0.98
		Too clayey	0.98				
Caneyville----------	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Droughty	0.45	Depth to bedrock	0.00	Slope	0.16
		Too acid	0.61	Shrink-swell	0.12	Depth to bedrock	0.93
		Organic matter content low	0.92			Rock fragments	0.99
		Depth to bedrock	0.93			Too acid	0.99
VcbD2:							
Vertrees------------	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.24	Shrink-swell	0.12	Too clayey	0.00
		Too acid	0.32	Slope	0.98	Too acid	0.88
		Water erosion	0.90				
Crider--------------	25	Fair		Poor		Poor	
		Organic matter content low	0.50	Low strength	0.00	Slope	0.00
		Too acid	0.54	Shrink-swell	0.66	Too clayey	0.64
		Water erosion	0.68	Slope	0.98	Too acid	0.98
		Too clayey	0.98				
Caneyville----------	15	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.55	Depth to bedrock	0.00	Too clayey	0.00
		Too acid	0.61	Shrink-swell	0.12	Depth to bedrock	0.93
		Organic matter content low	0.92	Slope	0.82	Too acid	0.99
		Depth to bedrock	0.93			Rock fragments	0.99

Table 15.—Construction Materials, Part II—Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
VccD3:							
Vertrees	35	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Organic matter content low	0.24	Shrink-swell	0.12	Too clayey	0.00
				Slope	0.98	Too acid	0.88
		Too acid	0.32				
Haggatt	25	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Organic matter content low	0.50	Depth to bedrock	0.04	Slope	0.00
				Shrink-swell	0.14	Too acid	0.92
		Too acid	0.50	Slope	0.98		
		Droughty	0.99				
		Water erosion	0.99				
Caneyville	20	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Slope	0.00
		Droughty	0.45	Depth to bedrock	0.00	Too clayey	0.00
		Too acid	0.61	Shrink-swell	0.12	Depth to bedrock	0.93
		Organic matter content low	0.92	Slope	0.82	Rock fragments	0.99
						Too acid	0.99
		Depth to bedrock	0.93				
W:							
Water	100	Not rated		Not rated		Not rated	
WbkAP:							
Wilbur	50	Fair		Fair		Fair	
		Water erosion	0.37	Wetness depth	0.14	Wetness depth	0.14
		Organic matter content low	0.88				
Newark	40	Fair		Poor		Poor	
		Water erosion	0.90	Low strength	0.00	Wetness depth	0.00
				Wetness depth	0.00		
				Shrink-swell	0.87		
WycAQ:							
Woodmere	90	Fair		Poor		Fair	
		Organic matter content low	0.24	Low strength	0.00	Too clayey	0.84
				Shrink-swell	0.87	Wetness depth	0.89
		Too acid	0.88	Wetness depth	0.89		
		Water erosion	0.90				
		Too clayey	0.92				

Table 16.—Engineering Index Properties

(Absence of an entry indicates that the data were not estimated. The representative values for USDA texture, Unified, and AASHTO classifications are designated with an asterisk)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AeoB2:												
Alford----------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	9-72	Silty clay loam* silt loam.	CL*	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	25-50	8-32
	72-80	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	70-100	15-40	3-20
AeoC2:												
Alford----------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	6-72	Silty clay loam* silt loam.	CL*	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	25-50	8-32
	72-80	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	70-100	15-40	3-20
AgzB:												
Apalona---------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	9-25	Silt loam* silty clay loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	2-29
	25-49	Silt loam* silty clay loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	98-100	75-100	55-100	22-45	5-20
	49-69	Clay* silty clay, channery clay loam, parachannery clay.	CH* , CL	A-7-6*	0	0-20	70-100	65-100	60-100	50-95	43-66	21-39
	69-90	Loam* sandy clay loam, sandy loam, very channery sandy loam.	CL*, SC	A-6*, A-1-b, A-2, A-4	0	0-30	55-100	50-100	35-95	20-75	20-40	5-21
	90-99	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
AgzB:												
Zanesville------	0-9	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	90-100	22-39	3-15
	9-23	Silty clay loam* silt loam.	CL*	A-6*, A-7-6, A-4	0	0	100	100	97-100	95-100	24-44	8-23
	23-32	Silty clay loam* silt loam.	CL*	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	24-43	8-22
	32-46	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	95-100	90-100	70-90	22-36	4-18
	46-56	Loam* channery sandy clay loam, clay loam, parachannery silty clay loam.	CL*, CH, SC, SM, ML	A-6*, A-2-6, A-4, A-7-6, A-2-4	0	0-25	55-100	50-100	40-100	20-90	17-58	3-36
	56-58	Bedrock*---------			---	---	---	---	---	---	---	---
BbhA:												
Bartle----------	0-9	Silt loam*-------	CL-ML*, ML	A-4*	0	0	100	100	90-100	80-95	18-24	3-7
	9-17	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-95	20-26	3-8
	17-30	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	85-95	24-38	7-14
	30-50	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-95	24-38	7-14
	50-80	Silt loam* loam, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0	95-100	90-100	85-100	60-95	24-38	7-14
BcrAW:												
Beanblossom-----	0-7	Silt loam*-------	CL-ML*, ML	A-4*	0	0-2	90-100	85-100	70-100	50-90	18-30	2-10
	7-24	Silt loam* very channery silt loam, loam, very channery loam.	CL-ML*, GC, GC-GM, ML	A-4*, A-2-4	0	0-35	40-95	35-90	30-90	20-80	16-30	3-10
	24-54	Extremely channery loam* extremely channery silt loam, stratified extremely channery loam to very channery silt loam to extremely channery silt loam.	GC-GM*, GC, GM, GW-GM	A-1-b*, A-2-4, A-2-6, A-4, A-1-a	0	0-30	15-55	10-50	8-50	6-45	20-32	NP-12
	54-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
BdoA:												
Bedford---------	0-9	Silt loam*-------	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	23-40	3-15
	9-24	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	25-50	6-30
	24-51	Silty clay loam* silt loam, gravelly silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-10	60-100	55-95	55-95	50-90	25-50	6-30
	51-80	Clay* silty clay, gravelly clay.	CH*, CL	A-7-6*	0	0-10	60-100	55-95	55-95	50-90	44-75	20-46
BdoB:												
Bedford---------	0-9	Silt loam*-------	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	23-40	3-15
	9-24	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	25-50	6-30
	24-51	Silty clay loam* silt loam, gravelly silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-10	60-100	55-95	55-95	50-90	25-50	6-30
	51-80	Clay* silty clay, gravelly clay.	CH*, CL	A-7-6*	0	0-10	60-100	55-95	55-95	50-90	44-75	20-46
BkeC2:												
Bloomfield------	0-4	Sand* fine sand.	SM*, SP, SP-SM	A-2-4*, A-3	0	0	100	100	70-90	4-30	0-14	NP
	4-17	Loamy sand* sand, loamy fine sand.	SM*, SP-SM	A-2-4*	0	0	100	100	70-100	5-35	0-14	NP
	17-80	Loamy fine sand* sand, fine sand, loamy sand.	SM*, SP-SM	A-2-4*	0	0	100	100	70-100	5-35	0-20	NP-3
Alvin-----------	0-7	Loamy sand*------	SM*	A-2-4*	0	0	100	100	70-90	15-30	0-14	NP
	7-31	Fine sandy loam* sandy loam, loam.	SC-SM*, CL, SC, ML, SM	A-4*, A-2-4	0	0	100	100	65-95	30-65	15-30	1-10
	31-60	Loamy sand* sandy loam, fine sandy loam.	SM*, CL-ML, SC-SM, ML	A-2-4*, A-4	0	0	100	100	50-95	15-65	0-25	NP-4
	60-80	Loamy sand* fine sandy loam, loamy fine sand, sand.	SM*, SP-SM	A-2-4*, A-3, A-4	0	0	100	100	50-85	5-50	0-20	NP-3

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
BuoA:												
Bromer----------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-35	2-12
	9-19	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	90-100	24-35	4-16
	19-33	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	28-44	12-23
	33-56	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0	0-5	90-100	90-100	85-100	80-95	26-42	12-22
	56-80	Gravelly clay* very gravelly clay, clay, silty clay.	GC*, CH, CL	A-7-6*	0-5	0-10	40-100	35-95	35-95	30-90	44-75	20-46
BvsG:												
Brussels--------	0-5	Very flaggy silty clay loam*.	CL*, CH	A-7-6*	0-10	50-75	90-100	85-100	80-95	70-90	41-58	19-28
	5-35	Very flaggy silty clay* very flaggy silty clay loam.	CH*, CL	A-7-6*	5-15	50-75	90-100	85-100	80-95	70-95	45-62	25-36
	35-60	Very flaggy silty clay loam* extremely flaggy silty clay.	CH*, CL	A-7-6*	10-25	65-80	90-100	85-100	80-95	70-95	44-60	25-36
Rock outcrop.												
CbrD2:												
Caneyville------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0-2	0-3	90-100	85-100	80-100	60-100	22-40	1-17
	6-14	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	14-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---
Haggatt---------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	85-100	80-100	75-100	22-40	1-17
	6-16	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	16-44	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-8	0-8	75-100	70-100	65-95	60-95	44-75	20-46
	44-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
CbrD2:												
Knobcreek-------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	7-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
CbsD3:												
Caneyville------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0-2	0-10	90-100	85-100	80-100	60-100	24-48	5-27
	5-11	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	11-33	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	33-60	Bedrock*---------			---	---	---	---	---	---	---	---
Haggatt---------	0-5	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	90-100	85-100	80-100	60-100	24-48	5-27
	5-11	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	11-42	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-8	0-8	75-100	70-100	65-95	60-95	44-75	20-46
	42-60	Bedrock*---------			---	---	---	---	---	---	---	---
Knobcreek-------	0-5	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	80-100	80-100	80-100	75-100	24-48	5-27
	5-13	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	24-50	5-29
	13-60	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	60-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
CbxD4:												
Caneyville------	0-3	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0-2	0-10	90-100	85-100	80-100	60-100	24-48	5-27
	3-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-30	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	30-60	Bedrock*---------			---	---	---	---	---	---	---	---
Haggatt---------	0-3	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	90-100	85-100	80-100	60-100	25-48	4-27
	3-11	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	11-42	Clay* silty clay.	CH*, CL	A-7-6*	0-8	0-8	85-100	70-100	75-95	70-95	44-75	20-46
	42-60	Bedrock*---------			---	---	---	---	---	---	---	---
CcaG:												
Caneyville------	0-8	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0-2	0-3	95-100	95-100	90-100	80-100	20-40	2-17
	8-14	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	14-33	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	33-60	Bedrock*---------			---	---	---	---	---	---	---	---
Rock outcrop.												
CtaB:												
Crider----------	0-7	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	7-43	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	97-100	95-100	85-100	24-50	4-29
	43-80	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	75-100	70-100	44-75	20-46
	80-82	Bedrock*---------			---	---	---	---	---	---	---	---
CteC2:												
Crider----------	0-7	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	7-43	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	97-100	95-100	85-100	24-50	4-29
	43-80	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	75-100	70-100	44-75	20-46
	80-82	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
CteC2:												
Vertrees--------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-20	Gravelly clay* gravelly silty clay, clay, silty clay loam.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-90	50-90	45-90	40-85	40-75	20-48
	20-46	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	46-80	Clay* gravelly silty clay, gravelly clay.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-95	50-95	45-95	40-90	40-75	20-48
CtwB:												
Crider----------	0-8	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	24-40	4-17
	8-30	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	97-100	95-100	85-100	24-50	4-29
	30-80	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	75-100	70-100	44-75	20-46
	80-82	Bedrock*---------			---	---	---	---	---	---	---	---
Bedford---------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	23-40	3-15
	9-24	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	25-50	6-30
	24-51	Silty clay loam* silt loam, gravelly silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-10	60-100	55-95	55-95	50-95	25-50	6-30
	51-80	Clay* silty clay, gravelly clay.	CH*, CL	A-7-6*	0	0-10	60-100	55-95	55-95	50-90	44-75	20-46
Navilleton------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-35	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	3-29
	35-65	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	65-79	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	79-83	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
DeaC2:												
Deuchars--------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-100	22-40	1-17
	8-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-100	22-40	1-17
	10-30	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	85-100	24-50	4-30
	30-55	Clay* silty clay, parachannery silty clay, parachannery clay.	CH*, CL	A-7-6*, A-6	0	0-1	90-100	90-100	85-100	80-95	37-68	15-45
	55-62	Parachannery silty clay* parachannery clay, silty clay, silty clay loam.	CL*, CH	A-7-6*, A-6	0	0-1	90-100	90-100	85-100	80-95	37-60	14-40
	62-80	Bedrock*---------			---	---	---	---	---	---	---	---
Apalona---------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-25	Silt loam* silty clay loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	2-29
	25-49	Silt loam* silty clay loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	98-100	75-100	55-100	22-45	5-20
	49-69	Clay* silty clay, channery clay loam, parachannery clay.	CH*, CL	A-7-6*	0	0-20	70-100	65-100	60-100	50-95	43-66	21-39
	69-90	Loam* sandy clay loam, sandy loam, very channery sandy loam.	CL*, SC	A-6*, A-1-b, A-2, A-4	0	0-30	55-100	50-100	35-95	20-75	20-40	5-21
	90-99	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
DeaC2:												
Wellston--------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	3-17
	8-26	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-100	23-48	4-27
	26-41	Loam* fine sandy loam, sandy loam, clay loam, silt loam.	CL*, SC-SM, CL-ML, SC	A-4*, A-6, A-2	0	0-5	80-98	75-95	45-90	25-80	20-35	5-15
	41-54	Parachannery fine sandy loam* very parachannery sandy loam, channery sandy loam, clay loam.	SC-SM*, CL, GC-GM, SC	A-2-4*, A-1-b, A-4, A-6	0-25	0-30	60-90	50-85	30-80	15-65	16-35	4-15
	54-60	Bedrock*---------			---	---	---	---	---	---	---	---
DeaC3:												
Deuchars--------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-100	22-40	1-17
	6-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-100	22-40	1-17
	10-30	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	85-100	24-50	4-30
	30-55	Clay* silty clay, parachannery silty clay, parachannery clay.	CH*, CL	A-7-6*, A-6	0	0-1	90-100	90-100	85-100	80-95	37-68	15-45
	55-62	Parachannery silty clay* parachannery clay, silty clay, silty clay loam.	CL*, CH	A-7-6*, A-6	0	0-1	90-100	90-100	85-100	80-95	37-60	14-40
	62-80	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
DeaC3:												
Apalona---------	0-4	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	24-40	4-17
	4-19	Silt loam* silty clay loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	2-29
	19-39	Silt loam* silty clay loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	98-100	75-100	55-100	22-45	5-20
	39-71	Clay* silty clay, channery clay loam, parachannery clay.	CH*, CL	A-7-6*	0	0-20	70-100	65-100	60-100	50-95	43-66	21-39
	71-90	Loam* sandy clay loam, sandy loam, very channery sandy loam.	CL*, SC	A-6*, A-1-b, A-2, A-4	0	0-30	55-100	50-100	35-95	20-75	20-40	5-21
	90-99	Bedrock*---------			---	---	---	---	---	---	---	---
Wellston--------	0-3	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	4-17
	3-22	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-100	23-48	4-27
	22-33	Loam* fine sandy loam, sandy loam, clay loam, silt loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-6, A-2	0	0-5	80-98	75-95	45-90	25-80	20-35	5-15
	33-50	Parachannery fine sandy loam* very parachannery sandy loam, channery sandy loam, clay loam.	SC-SM*, CL, GC-GM, SC	A-2-4*, A-1-b, A-4, A-6	0-25	0-30	60-90	50-85	30-80	15-65	16-35	4-15
	50-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EbhD2:												
Ebal	0-7	Silt loam*	CL*, ML	A-4*, A-6	0	0-2	80-100	80-100	75-100	60-95	23-40	1-17
	7-13	Silt loam*	CL*	A-6*, A-7-6	0	0-2	80-100	80-100	75-100	60-95	30-48	12-25
	13-21	Silty clay loam* silt loam, channery loam, very channery silty clay loam.	CL*, CH, GC	A-7-6*	0	0-15	50-100	45-100	40-95	35-90	40-55	20-30
	21-48	Clay* silty clay, parachannery clay, parachannery silty clay.	CH*, CL	A-7-6*	0	0	90-100	90-100	85-100	80-100	48-70	25-45
	48-80	Clay* silty clay, parachannery clay, very parachannery silty clay.	CH*, CL	A-7-6*	0	0	90-100	90-100	85-100	80-100	48-70	25-45
	80-90	Bedrock*			---	---	---	---	---	---	---	---
Gilpin	0-8	Silt loam*	CL*, ML, CL-ML	A-4*, A-6	0-3	0-5	80-100	80-95	75-95	55-90	20-37	3-13
	8-22	Gravelly loam* silty clay loam, gravelly silt loam, silt loam.	GC*, CL, SC	A-6*, A-2-6	0-3	0-5	55-95	50-90	45-85	30-75	28-46	12-24
	22-34	Very gravelly loam* gravelly silt loam, parachannery silty clay loam, gravelly clay loam.	GC*, CL, SC	A-2-6*, A-2-4, A-4, A-6	0-3	0-20	35-80	30-75	25-75	20-70	24-43	9-24
	34-40	Bedrock*			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
EbhD2:												
Wellston--------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	3-17
	8-26	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-100	23-48	4-27
	26-41	Loam* fine sandy loam, sandy loam, clay loam, silt loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-6, A-2	0	0-5	80-98	75-95	45-90	25-80	20-35	5-15
	41-54	Parachannery fine sandy loam* very parachannery sandy loam, channery sandy loam, clay loam.	SC-SM*, GC-GM, CL, SC	A-2-4*, A-1-b, A-4, A-6	0-25	0-30	60-90	50-85	30-80	15-65	16-35	4-15
	54-60	Bedrock*---------			---	---	---	---	---	---	---	---
EbhD3:												
Ebal------------	0-3	Silt loam*-------	CL*, ML	A-4*, A-6	0	0-2	80-100	80-100	75-100	60-95	23-40	1-17
	3-17	Silty clay loam* silt loam, channery loam, very channery silty clay loam.	CL*, CH, GC	A-7-6*	0	0-15	50-100	45-100	40-95	35-90	40-55	20-30
	17-44	Clay* silty clay, parachannery clay, parachannery silty clay.	CH*, CL	A-7-6*	0	0	90-100	90-100	85-100	80-100	48-70	25-45
	44-67	Clay* silty clay, parachannery clay, very parachannery silty clay.	CH*, CL	A-7-6*	0	0	90-100	90-100	85-100	80-100	48-70	25-45
	67-80	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EbhD3:												
Gilpin----------	0-4	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0-3	0-5	80-100	80-95	75-95	55-90	26-40	7-18
	4-22	Gravelly loam* silty clay loam, gravelly silt loam, silt loam.	GC*, CL, SC	A-6*, A-2-6	0-3	0-5	55-95	50-90	45-85	30-75	28-46	12-24
	22-29	Very gravelly loam* gravelly silt loam, parachannery silty clay loam, gravelly clay loam.	GC*, CL, SC	A-2-6*, A-2-4, A-4, A-6	0-3	0-20	35-80	30-75	25-75	20-70	24-43	9-24
	29-40	Bedrock*---------			---	---	---	---	---	---	---	---
Wellston--------	0-3	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	4-17
	3-22	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-100	75-100	23-48	4-27
	22-33	Loam* fine sandy loam, sandy loam, clay loam, silt loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-6, A-2	0	0-5	80-98	75-95	45-90	25-80	20-35	5-15
	33-50	Parachannery fine sandy loam* very parachannery sandy loam, channery sandy loam, clay loam.	SC-SM*, CL, GC-GM, SC	A-2-4*, A-1-b, A-4, A-6	0-25	0-30	60-90	50-85	30-80	15-65	16-35	4-15
	50-60	Bedrock*---------			---	---	---	---	---	---	---	---
EepA:												
Elkinsville-----	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	10-43	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	43-53	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	70-100	35-80	24-38	7-14
	53-66	Loam* sandy loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
	66-80	Loam* fine sandy loam, sandy loam.	CL-ML*, CL, SC, SC-SM	A-4*, A-2-4	0	0	85-100	80-100	50-95	25-75	20-30	4-10

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
EepB2:												
Elkinsville-----	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	10-43	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	43-53	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	70-100	35-80	24-38	7-14
	53-66	Loam* sandy loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
	66-80	Loam* fine sandy loam, sandy loam.	CL-ML*, CL, SC, SC-SM	A-4*, A-2-4	0	0	85-100	80-100	50-95	25-75	20-30	4-10
EepC2:												
Elkinsville-----	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	7-43	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	43-53	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	70-100	35-80	24-38	7-14
	53-66	Loam* sandy loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
	66-80	Loam* fine sandy loam, sandy loam.	CL-ML*, CL, SC, SC-SM	A-4*, A-2-4	0	0	85-100	80-100	50-95	25-75	20-30	4-10
EepGQ:												
Elkinsville-----	0-6	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	6-36	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	36-75	Loam* sandy loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
	75-80	Loam* fine sandy loam, sandy loam.	SC-SM*, CL, CL-ML, SC	A-4*, A-2-4	0	0	85-100	80-100	50-95	25-75	20-30	4-10

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
EesA:												
Elkinsville-----	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	8-38	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	38-75	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	55-100	35-80	24-38	7-14
	75-80	Stratified loam to sandy loam to sandy clay loam*.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
Millstone-------	0-12	Loam*-----------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-100	55-75	21-40	NP-17
	12-59	Loam* fine sandy loam, clay loam, sandy loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	90-100	80-100	60-100	35-75	20-40	5-18
	59-80	Loam* very fine sandy loam, gravelly sandy loam, clay loam.	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4, A-6	0	0	80-100	50-100	30-100	15-75	15-30	2-11
EesB:												
Elkinsville-----	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	8-32	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-100	75-95	25-50	5-28
	32-73	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	55-100	35-80	24-38	7-14
	73-80	Stratified loam to sandy loam to sandy clay loam*.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
Millstone-------	0-10	Loam*-----------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-100	55-75	21-40	NP-17
	10-62	Loam* fine sandy loam, clay loam, sandy loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	90-100	80-100	60-100	35-75	20-40	5-18
	62-80	Loam* very fine sandy loam, gravelly sandy loam, clay loam.	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4, A-6	0	0	80-100	50-100	30-100	15-75	15-30	2-11

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EesC2:												
Elkinsville-----	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	7-30	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	30-56	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	55-100	35-80	24-38	7-14
	56-80	Stratified loam to sandy loam to sandy clay loam*.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
Millstone-------	0-8	Loam*-----------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-100	55-75	21-40	NP-17
	8-58	Loam* fine sandy loam, clay loam, sandy loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	90-100	80-100	60-100	35-75	20-40	5-18
	58-80	Loam* very fine sandy loam, gravelly sandy loam, clay loam.	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4, A-6	0	0	80-100	50-100	30-100	15-75	15-30	2-11
EesFQ:												
Elkinsville-----	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	5-24	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	24-50	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	55-100	35-80	24-38	7-14
	50-80	Stratified loam to sandy loam to sandy clay loam*.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
Millstone-------	0-6	Loam*-----------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-100	55-75	21-40	NP-17
	6-54	Loam* fine sandy loam, clay loam, sandy loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	90-100	80-100	60-100	35-75	20-40	5-18
	54-80	Loam* very fine sandy loam, gravelly sandy loam, clay loam.	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4, A-6	0	0	80-100	50-100	30-100	15-75	15-30	2-11

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
GacAW:												
Gatchel---------	0-4	Loam*------------	CL-ML*, CL, ML	A-4*	0-2	0-5	90-100	85-100	70-95	50-75	16-27	2-9
	4-18	Fine sandy loam* loam, sandy loam.	SC-SM*, ML, SM, CL-ML	A-4*, A-2-4	0-2	0-5	90-100	85-100	50-95	30-75	14-23	2-7
	18-60	Stratified extremely channery coarse sandy loam to extremely channery sandy loam to very channery loam*.	GP-GC*, GC-GM, GM	A-1-a*, A-2-4	0-10	10-65	10-55	10-50	6-45	3-35	14-23	2-7
GbgB2:												
Gatton----------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	3-15
	9-24	Silt loam* silty clay loam.	CL*	A-7-6*, A-6	0	0	100	100	95-100	85-100	32-50	12-30
	24-66	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	85-100	65-95	18-40	4-20
	66-80	Clay loam* loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	85-100	75-100	50-85	30-50	11-24
GbgC2:												
Gatton----------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	3-15
	9-24	Silt loam* silty clay loam.	CL*	A-7-6*, A-6	0	0	100	100	95-100	85-100	32-50	12-30
	24-66	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	85-100	65-95	18-40	4-20
	66-80	Clay loam* loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	85-100	75-100	50-85	30-50	11-24
GbgC3:												
Gatton----------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	3-15
	6-24	Silt loam* silty clay loam.	CL*	A-7-6*, A-6	0	0	100	100	95-100	85-100	32-50	12-30
	24-66	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	85-100	65-95	18-40	4-20
	66-80	Clay loam* loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	85-100	75-100	50-85	30-50	11-24

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
GfcF:												
Gilpin----------	0-5	Silt loam* loam.	CL*, ML, CL-ML	A-4*, A-6	0-3	0-5	80-100	80-95	75-95	55-90	20-37	3-13
	5-8	Silt loam*-------	CL*	A-6*, A-7-6	0	0-2	80-100	80-100	75-100	60-95	30-48	12-25
	8-22	Gravelly loam* silty clay loam, gravelly silt loam, silt loam.	GC*, CL, SC	A-6*, A-2-6	0-3	0-5	55-95	50-90	45-85	30-75	28-46	12-24
	22-34	Very gravelly loam* gravelly silt loam, parachannery silty clay loam, gravelly clay loam.	GC*, CL, SC	A-2-6*, A-2-4, A-4, A-6	0-3	0-20	35-80	30-75	25-75	20-70	24-43	9-24
	34-40	Bedrock*---------			---	---	---	---	---	---	---	---
Tipsaw----------	0-2	Very fine sandy loam* loam.	SM*, CL-ML, ML, SC-SM	A-4*	0-2	0-5	90-100	85-100	70-95	40-70	10-24	NP-7
	2-5	Very fine sandy loam* loam.	SM*, CL-ML, ML, SC-SM	A-4*	0-2	0-5	85-100	80-100	65-95	35-70	10-24	NP-7
	5-20	Channery very fine sandy loam* parachannery very fine sandy loam, sandy loam, loam.	SC-SM*, CL-ML, ML, SM, GM	A-2-4*, A-4	0-15	0-25	55-90	50-85	30-75	15-65	10-24	NP-7
	20-28	Channery loam* extremely parachannery very fine sandy loam, sandy loam, loam.	SC-SM*, SM, GM, CL-ML, ML	A-2-4*, A-4	0-15	0-25	55-95	50-85	30-75	15-65	10-24	NP-7
	28-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
GfcF:												
Ebal------------	0-5	Silt loam*-------	CL*, ML	A-4*, A-6	0	0-2	80-100	80-100	75-100	60-95	23-40	1-17
	5-9	Silt loam*-------	CL*	A-6*, A-7-6	0	0-2	80-100	80-100	75-100	60-95	30-48	12-25
	9-20	Silty clay loam* silt loam, channery loam, very channery silty clay loam.	CL*, CH, GC	A-7-6*	0	0-15	50-100	45-100	40-95	35-90	40-55	20-30
	20-48	Clay* silty clay, parachannery clay, parachannery silty clay.	CH*, CL	A-7-6*	0	0	90-100	90-100	85-100	80-100	48-70	25-45
	48-67	Clay* silty clay, parachannery clay, very parachannery silty clay.	CH*, CL	A-7-6*	0	0	90-100	90-100	85-100	80-100	48-70	25-45
	67-80	Bedrock*---------			---	---	---	---	---	---	---	---
GgbG:												
Gilwood---------	0-6	Silt loam* channery silt loam.	CL-ML*, CL, ML, GC-GM, GM	A-4*	0	0-5	60-100	55-100	50-100	40-95	18-25	3-8
	6-11	Channery silt loam* silt loam.	CL-ML*, CL, GC-GM, GC	A-4*	0	0-10	60-100	55-95	50-95	40-95	22-28	5-9
	11-22	Channery silt loam*.	CL*, CL-ML, GC, GC-GM	A-4*, A-6	0-5	0-10	60-80	55-75	50-75	40-75	24-32	6-12
	22-32	Extremely channery silt loam* very channery silt loam.	GC-GM*, CL-ML, GC, GM, ML	A-2-4*, A-1-b, A-4	0-10	10-40	35-65	30-55	25-55	15-55	18-30	3-10
	32-60	Bedrock*---------			---	---	---	---	---	---	---	---
Brownstown------	0-6	Silt loam* channery silt loam.	ML*, CL-ML, GC-GM, GM	A-4*, A-2-4	0	0-10	55-100	50-100	45-100	34-95	0-25	NP-7
	6-18	Channery silt loam* very channery silt loam, extremely channery silt loam.	GM*, CL-ML, GC-GM, ML	A-4*, A-2-4	0-10	10-50	40-80	35-75	30-75	25-70	0-25	NP-7
	18-36	Extremely channery silt loam*.	GM*, GC-GM	A-2-4*, A-1, A-4	0-30	30-55	30-60	25-55	25-55	15-45	0-25	NP-7
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
GmaG:												
Gnawbone--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	95-100	90-100	90-100	80-95	16-25	2-8
	7-27	Parachannery silty clay loam* parachannery silt loam, silty clay loam, silt loam.	CL*	A-6*, A-4, A-7	0	0-3	85-100	80-100	80-100	70-95	30-44	8-20
	27-39	Extremely parachannery silt loam* very parachannery silt loam, parachannery silty clay loam, very parachannery silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7	0-1	0-5	85-100	80-100	80-100	70-95	20-42	7-18
	39-60	Bedrock*---------			---	---	---	---	---	---	---	---
Kurtz-----------	0-6	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	90-100	90-100	85-100	75-100	20-35	3-12
	6-36	Silty clay loam* silt loam, parachannery silty clay loam, parachannery silt loam.	CL*	A-6*, A-4, A-7	0	0-3	90-100	90-99	85-99	75-99	30-50	8-25
	36-47	Extremely parachannery silty clay loam* very parachannery silty clay loam, extremely parachannery silt loam, very parachannery silt loam.	CL*	A-6*, A-4, A-7	0-1	0-3	90-100	90-99	85-99	75-99	30-46	8-23
	47-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
HcaA:												
Hatfield--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	85-100	75-95	22-39	2-15
	7-20	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	85-100	75-95	24-40	4-18
	20-36	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	85-100	75-95	26-50	5-26
	36-78	Silty clay loam* silt loam, loam.	CL*	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-100	55-95	24-44	8-24
	78-83	Silt loam* silty clay loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-100	55-100	20-44	5-24
HcgAH:												
Haymond---------	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	10-44	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	20-30	3-10
	44-60	Stratified silt loam to sandy loam to loam*.	CL-ML*, CL, ML, SC-SM	A-4*, A-6	0	0	95-100	90-100	65-100	35-90	15-35	2-15
HcgAW:												
Haymond---------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	9-44	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	20-30	3-10
	44-60	Stratified silt loam to fine sandy loam to sandy loam to loam*.	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-100	35-90	15-35	2-15
HcpAP:												
Haymond---------	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	10-44	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	20-30	3-10
	44-60	Stratified silt loam to sandy loam to loam*.	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-100	35-90	15-35	2-15
HufAH:												
Huntington------	0-12	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	98-100	95-100	90-100	80-95	25-32	7-12
	12-70	Silty clay loam* silt loam.	CL*	A-7-6*, A-4, A-6	0	0	100	100	90-100	75-100	26-50	8-28
	70-80	Silt loam* silty clay loam, loam, sandy loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4, A-7-6	0	0	100	100	65-100	35-95	20-48	5-22

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HufAK:												
Huntington------	0-12	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	98-100	95-100	90-100	80-95	25-32	7-12
	12-42	Silt loam* silty clay loam.	CL*	A-6*, A-4, A-7	0	0	98-100	95-100	90-100	80-95	25-44	8-18
	42-80	Silty clay loam* silt loam, loam, sandy loam.	CL*, ML, SC, SM	A-6*, A-7, A-4	0	0	98-100	95-100	65-100	35-90	20-44	3-20
JoaA:												
Johnsburg-------	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	10-36	Silt loam* silty clay loam.	CL*, CL-ML, ML	A-6*, A-7, A-4	0	0	100	100	95-100	85-100	23-50	2-28
	36-72	Silt loam* silty clay loam, loam, clay loam.	CL*	A-6*, A-4	0	0	95-100	90-100	60-100	40-95	24-40	8-24
	72-90	Silt loam* channery silt loam, loam, channery clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	55-100	50-100	45-100	35-90	20-40	4-24
	90-99	Bedrock*---------			---	---	---	---	---	---	---	---
KunAW:												
Kintner---------	0-5	Loam* silt loam.	CL-ML*, ML	A-4*	0	0-4	95-100	85-100	70-100	50-90	16-25	2-8
	5-23	Silt loam* loam.	CL*, CL-ML, ML	A-4*	0	0-5	85-100	80-100	70-100	50-90	16-30	3-10
	23-48	Extremely gravelly sandy loam* very gravelly sandy loam, very gravelly loam, extremely gravelly loam.	GW-GC*, GC-GM, SM, GM, SC, SC-SM	A-1-a*, A-2-4, A-1-b, A-4	0-8	0-15	15-65	10-55	8-55	5-45	17-28	NP-10
	48-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
KxkC2:												
Knobcreek-------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	7-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Navilleton------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-35	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	3-29
	35-43	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	43-72	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	72-82	Bedrock*---------			---	---	---	---	---	---	---	---
KxlC3:												
Knobcreek-------	0-6	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	80-100	80-100	80-100	75-100	24-48	5-27
	6-13	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	24-50	5-29
	13-60	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	60-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Haggatt---------	0-5	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	90-100	85-100	80-100	60-100	24-48	5-27
	5-11	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	11-42	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-8	0-8	75-100	70-100	65-95	60-95	44-75	20-46
	42-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
KxlC3:												
Caneyville------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	90-100	85-100	80-100	60-100	25-48	4-27
	5-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-40	Bedrock*---------			---	---	---	---	---	---	---	---
KxlE3:												
Knobcreek-------	0-6	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	80-100	80-100	80-100	75-100	24-48	5-27
	6-13	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	24-50	5-29
	13-60	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	60-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Haggatt---------	0-5	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	90-100	85-100	80-100	60-100	24-48	5-27
	5-11	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	11-42	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-8	0-8	75-100	70-100	65-95	60-95	44-75	20-46
	42-60	Bedrock*---------			---	---	---	---	---	---	---	---
Caneyville------	0-6	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	90-100	85-100	80-100	60-100	25-48	4-27
	6-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
KxmE2:												
Knobcreek-------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	7-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Haggatt---------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	85-100	80-100	75-100	22-40	1-17
	6-16	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	16-44	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-8	0-8	75-100	70-100	65-95	60-95	44-75	20-46
	44-60	Bedrock*---------			---	---	---	---	---	---	---	---
Caneyville------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0-2	0-3	90-100	85-100	80-100	60-100	22-40	1-17
	6-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---
KxoC2:												
Knobcreek-------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	7-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-7-6, A-4	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
KxoC2:												
Navilleton------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-35	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	3-29
	35-43	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	43-72	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	72-82	Bedrock*---------			---	---	---	---	---	---	---	---
Haggatt---------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	85-100	80-100	75-100	22-40	1-17
	6-16	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	16-44	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-8	0-8	75-100	70-100	65-95	60-95	44-75	20-46
	44-60	Bedrock*---------			---	---	---	---	---	---	---	---
KxpD2:												
Knobcreek-------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	7-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Haggatt---------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	85-100	80-100	75-100	22-40	1-17
	6-16	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	16-44	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-8	0-8	75-100	70-100	65-95	60-95	44-75	20-46
	44-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
KxpD2:												
Caneyville------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0-2	0-3	90-100	85-100	80-100	60-100	22-40	1-17
	6-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---
KxrC3:												
Knobcreek-------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	5-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Navilleton------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	5-35	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	3-29
	35-43	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	43-72	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	80-100	75-100	44-75	20-46
	72-82	Bedrock*---------			---	---	---	---	---	---	---	---
Haggatt---------	0-5	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4	0	0	90-100	85-100	80-100	75-100	22-40	1-17
	5-16	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	16-44	Clay* silty clay.	CH*, CL	A-7-6*	0-8	0-8	85-100	70-100	75-95	70-95	44-75	20-46
	44-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
KxsD3:												
Knobcreek-------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	5-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Haggatt---------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	85-100	80-100	75-100	22-40	1-17
	5-16	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	16-44	Clay* silty clay.	CH*, CL	A-7-6*	0-8	0-8	85-100	70-100	75-95	70-95	44-75	20-46
	44-60	Bedrock*---------			---	---	---	---	---	---	---	---
Caneyville------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	90-100	85-100	80-100	60-100	25-48	4-27
	5-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---
KxtC2:												
Knobcreek-------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	90-100	90-100	85-100	22-40	1-17
	7-18	Silty clay loam* silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	23-50	3-29
	18-63	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	63-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
KxtC2:												
Haggatt---------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	90-100	85-100	80-100	75-100	22-40	1-17
	6-16	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	16-44	Clay* silty clay.	CH*, CL	A-7-6*	0-8	0-8	85-100	70-100	75-95	70-95	44-75	20-46
	44-60	Bedrock*---------			---	---	---	---	---	---	---	---
Caneyville------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0-2	0-3	90-100	85-100	80-100	60-100	22-40	1-17
	6-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-40	Bedrock*---------			---	---	---	---	---	---	---	---
KxtC3:												
Knobcreek-------	0-6	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	80-100	80-100	80-100	75-100	24-48	5-27
	6-13	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	80-100	80-100	70-100	24-50	5-29
	13-60	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-46
	60-80	Clay* silty clay, gravelly clay, gravelly silty clay.	CH*, CL	A-7-6*	0-15	0-15	75-100	70-100	70-100	65-100	44-75	20-45
Haggatt---------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	90-100	85-100	80-100	60-100	25-48	4-27
	5-11	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	11-42	Clay* silty clay.	CH*, CL	A-7-6*	0-8	0-8	85-100	70-100	75-95	70-95	44-75	20-46
	42-60	Bedrock*---------			---	---	---	---	---	---	---	---
Caneyville------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	90-100	85-100	80-100	60-100	25-48	4-27
	5-10	Silty clay loam* silt loam.	CL*	A-6*, A-7-6	0-2	0-3	95-100	95-100	90-100	85-100	30-50	11-29
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LaaA:												
Laconia---------	0-7	Silt loam*-------	CL*, CL-ML, ML	A-6*, A-4	0	0	100	100	90-100	90-100	27-45	7-18
	7-13	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	95-100	27-38	7-17
	13-38	Silty clay loam* silty clay.	CL*, CH	A-7-6*, A-6	0	0	100	100	95-100	95-100	33-56	15-32
	38-80	Silty clay* clay.	CH* , CL	A-7-6*	0	0	95-100	90-100	90-100	90-95	45-62	25-44
LpoAK:												
Lindside--------	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-95	25-38	7-18
	10-42	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	95-100	85-97	25-44	7-24
	42-80	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	95-100	85-97	25-44	7-24
LpoAQ:												
Lindside--------	0-10	Silt loam*-------	ML*, CL, CL-ML	A-4*, A-6	0	0	100	95-100	85-100	75-100	20-39	2-15
	10-41	Silt loam* silty clay loam.	CL*, ML	A-6*, A-4	0	0	95-100	95-100	85-100	75-100	25-50	3-25
	41-60	Silt loam* stratified silt loam to loam to sandy loam.	CL*, ML, SC-SM, SM	A-4*, A-6, A-2-4	0	0	85-100	75-100	60-100	25-95	15-38	2-15
McnGQ:												
Markland--------	0-4	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	4-28	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-62	20-36
	28-59	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-62	20-36
	59-80	Stratified silty clay loam to silty clay to silt loam*.	CL*, CH, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	15-55	4-30
MdlD2:												
Markland--------	0-6	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	6-25	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-62	20-36
	25-42	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-62	20-36
	42-80	Stratified silty clay loam to silty clay to silt loam*.	CL*, CH, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	15-55	4-30

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
MdwD3:												
Markland--------	0-4	Silty clay loam*-	CL*	A-7-6*, A-6	0	0	100	100	95-100	90-100	35-48	15-28
	4-18	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-62	20-36
	18-40	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-62	20-36
	40-80	Stratified silty clay loam to silty clay to silt loam*.	CL*, CH, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	15-55	4-30
MhuA:												
McGary----------	0-11	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	90-100	25-40	5-20
	11-42	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-60	20-34
	42-50	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-60	20-34
	50-60	Stratified silty clay loam to silty clay to silt loam*.	CL*, CH	A-7-6*, A-6	0	0	100	100	95-100	90-100	38-60	15-34
NbhAK:												
Newark----------	0-7	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-100	80-100	20-40	4-16
	7-66	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	80-100	22-50	4-25
	66-80	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-100	22-50	4-25
NbhAQ:												
Newark----------	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-100	70-96	24-40	4-16
	10-25	Silty clay loam* silt loam.	CL*	A-7-6*, A-4, A-6	0	0	100	100	90-100	80-100	25-46	8-24
	25-80	Silty clay loam*-	CL*, CH	A-7-6*, A-6	0	0	100	100	90-100	85-96	35-54	15-30
NprAQ:												
Nolin-----------	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-100	80-98	20-38	4-15
	10-47	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-100	80-98	22-38	5-15
	47-60	Silt loam* stratified silt loam to loam to sandy loam.	CL*, ML, SC, SM	A-4*, A-2, A-2-4, A-6	0	0	90-100	80-100	50-100	25-98	15-38	2-15
Omz.												
Orthents												

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
PcrA:												
Pekin-----------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-100	15-30	3-12
	8-29	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	75-100	24-38	5-18
	29-58	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-100	65-95	25-40	6-20
	58-80	Silt loam* silty clay loam, loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-100	25-95	15-38	3-18
PcrB2:												
Pekin-----------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-100	15-30	3-12
	9-24	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	75-100	24-38	5-18
	24-45	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-100	65-95	25-40	6-20
	45-80	Silt loam* silty clay loam, loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-100	25-95	15-38	3-18
PhwB2:												
Percell---------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-49	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	4-29
	49-70	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	80-100	41-62	16-35
	70-80	Silty clay* silty clay loam, silt loam.	CH*, CL, CL-ML	A-7-6*, A-4, A-6	0	0	100	100	95-100	80-100	26-64	6-36
Pml. Pits, quarry												
Ppu. Pits, sand and gravel												

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RmcE:												
Riney-----------	0-8	Loam*------------	ML*, CL, CL-ML	A-4*, A-6	0	0	95-100	95-100	70-100	65-95	22-40	2-17
	8-45	Sandy clay loam* loam, clay loam.	CL*, ML, SC, SM	A-6*, A-2, A-4, A-7-6	0	0	90-100	85-100	70-90	30-75	23-50	2-29
	45-76	Sandy loam* loam, sandy clay loam.	SC*, SM, CL, ML	A-4*, A-2-4, A-2-6	0	0	90-100	85-100	55-90	25-55	14-40	NP-18
	76-80	Loamy sand* sandy loam, sand.	SC-SM*, SM, SP-SM	A-2-4*, A-3, A-1-b	0	0	90-100	85-100	45-70	5-35	0-25	NP-8
ScbA:												
Sciotoville-----	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	95-100	85-100	65-95	22-40	3-15
	9-27	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	95-100	95-100	80-100	70-90	20-44	4-24
	27-50	Clay loam* loam, silt loam, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-100	55-90	25-44	4-24
	50-80	Loam* silty clay loam, silt loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-6, A-7-6, A-2-4	0	0-3	80-100	75-100	50-100	30-85	5-44	NP-24
ScbB2:												
Sciotoville-----	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	95-100	85-100	65-95	22-40	3-15
	9-27	Silt loam* silty clay loam.	CL*, CL-ML	A-4*, A-6, A-7-6	0	0	95-100	95-100	80-100	70-90	20-44	4-24
	27-50	Clay loam* loam, silt loam, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-100	55-90	25-44	4-24
	50-80	Loam* silty clay loam, silt loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-6, A-7-6, A-2-4	0	0-3	80-100	75-100	50-100	30-85	5-44	NP-24
SfyB:												
Shircliff-------	0-8	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	8-19	Silty clay loam* silt loam.	CL*	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	26-50	8-30
	19-43	Silty clay* silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-65	20-40
	43-80	Silty clay* silty clay loam, silt loam.	CL*, CH, CL-ML	A-7-6*, A-4, A-6	0	0	100	100	95-100	90-100	16-55	5-30
Uaa.												
Udorthents												

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
UekAQ. Urban land.												
Elkinsville-----	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	10-43	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	43-53	Loam* clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	70-100	35-80	24-38	7-14
	53-66	Loam* sandy loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
	66-80	Loam* fine sandy loam, sandy loam.	CL-ML*, CL, SC, SC-SM	A-4*, A-2-4	0	0	85-100	80-100	50-95	25-75	20-30	4-10
Haymond---------	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	10-44	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	20-30	3-10
	44-60	Stratified silt loam to fine sandy loam to sandy loam to loam*.	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-100	35-90	15-35	2-15
UflC: Urban land.												
Crider----------	0-7	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	7-43	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	97-100	95-100	85-100	24-50	4-29
	43-80	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	75-100	70-100	44-75	20-46
	80-82	Bedrock*---------			---	---	---	---	---	---	---	---
Vertrees--------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-20	Gravelly clay* gravelly silty clay, clay, silty clay loam.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-90	50-90	45-90	40-85	40-75	20-48
	20-46	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	46-80	Clay* gravelly clay, gravelly silty clay.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-95	50-95	45-95	40-90	40-75	20-48

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
UnsB:												
Urban land.												
Udarents--------	0-3	Silty clay loam*-	CL*	A-6*, A-7	0	0-3	80-100	80-95	75-95	65-90	35-45	15-22
	3-13	Silty clay loam* gravelly silty clay loam, gravelly silty clay.	CH*, CL, GC, SC	A-7-6*, A-6	0	0-10	66-100	60-100	50-80	45-75	40-80	20-50
	13-60	Gravelly silty clay* gravelly clay, very gravelly clay.	CH*, CL, GC, SC	A-7-6*	0	5-20	50-80	50-80	50-80	45-75	40-80	20-50
Usl.												
Udorthents												
VcaC3:												
Vertrees--------	0-4	Gravelly silt loam* silt loam.	ML*, CL-ML, GC-GM, GM	A-4*	0	0-10	65-90	55-90	45-70	45-70	25-35	4-10
	4-20	Gravelly clay* gravelly silty clay, clay, silty clay loam.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-90	50-90	45-90	40-85	40-75	20-48
	20-46	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	46-80	Clay* gravelly clay, gravelly silty clay.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-95	50-95	45-95	40-90	40-75	20-48
Crider----------	0-7	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	24-40	4-17
	7-30	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	97-100	95-100	85-100	24-50	4-29
	30-80	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	75-100	70-100	44-75	20-46
	80-82	Bedrock*---------			---	---	---	---	---	---	---	---
Caneyville------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0-2	0-10	90-100	85-100	80-100	60-100	24-48	5-27
	5-10	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
VcbD2:												
Vertrees--------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	8-20	Gravelly clay* gravelly silty clay, clay, silty clay loam.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-90	50-90	45-90	40-85	40-75	20-48
	20-46	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	46-80	Clay* gravelly clay, gravelly silty clay.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-95	50-95	45-95	40-90	40-75	20-48
Crider----------	0-7	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	1-17
	7-43	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	97-100	95-100	85-100	24-50	4-29
	43-80	Clay* silty clay.	CH*, CL	A-7-6*	0-5	0-5	80-100	80-100	75-100	70-100	44-75	20-46
	80-82	Bedrock*---------			---	---	---	---	---	---	---	---
Caneyville------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0-2	0-3	90-100	85-100	80-100	60-100	22-40	1-17
	6-10	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	80-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---
VccD3:												
Vertrees--------	0-4	Gravelly silt loam* silt loam.	ML*, CL-ML, GC-GM, GM	A-4*	0	0-10	65-90	55-90	45-70	45-70	25-35	4-10
	4-20	Gravelly clay* gravelly silty clay, clay, silty clay loam.	CH*, CL, GC	A-7-6*, A-6, A-7	0	0-8	50-90	50-90	45-90	40-85	40-87	29-59
	20-46	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	46-80	Clay* gravelly clay, gravelly silty clay.	CH*, GC	A-7-6*, A-7	0	0-8	50-95	50-95	45-95	40-90	50-86	29-59
Haggatt---------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	90-100	85-100	80-100	60-100	25-48	4-27
	5-11	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	80-100	75-100	70-100	60-100	24-50	4-30
	11-42	Clay* silty clay.	CH*, CL	A-7-6*	0-8	0-8	85-100	70-100	75-95	70-95	44-75	20-46
	42-60	Bedrock*---------			---	---	---	---	---	---	---	---

Table 16.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
VccD3:												
Caneyville------	0-5	Silty clay loam* silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0-2	0-10	90-100	85-100	80-100	60-100	24-48	5-27
	5-10	Clay* silty clay.	CH*, CL	A-7-6*, A-6, A-7	0	0-5	85-98	85-98	80-95	70-95	40-75	20-48
	10-36	Clay* silty clay.	CH*, CL	A-7-6*	0-2	0-15	85-100	80-100	85-100	80-100	44-75	20-45
	36-60	Bedrock*---------			---	---	---	---	---	---	---	---
W.												
Water												
WbkAP:												
Wilbur----------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	95-100	70-100	20-30	3-10
	8-32	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	95-100	80-100	20-30	3-10
	32-60	Stratified silt loam to loam to sandy loam to fine sandy loam*.	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	80-100	60-100	20-35	3-15
Newark----------	0-8	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	90-100	80-100	20-40	4-16
	8-66	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	80-100	22-50	4-25
	66-80	Silt loam* silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-100	22-50	4-25
WycAQ:												
Woodmere--------	0-10	Silt loam* silty clay loam.	CL*	A-7-6*, A-6	0	0	100	100	90-100	75-100	35-50	11-24
	10-30	Silty clay loam* silt loam.	CL*	A-7-6*, A-4, A-6	0	0	100	100	95-100	85-100	25-50	8-24
	30-42	Silty clay loam* silty clay.	CL* , CH	A-7-6*, A-6	0	0	100	100	95-100	90-100	35-60	15-35
	42-80	Silty clay loam* silty clay, clay loam.	CL* , CH	A-7-6*, A-6	0	0	100	100	90-100	75-100	35-60	15-35

Table 17.—Physical Properties of the Soils

(Absence of an entry indicates that data were not estimated. Properties list low, representative, and high values separated by a dash)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
AeoB2:									
Alford---------	0-9	2-5 -7	73-79-82	12-16-20	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-72	1-3 -5	63-69-77	22-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	72-80	3-9 -20	58-75-82	12-16-22	1.30-1.38-1.45	0.60-1.30-2.00	0.18-0.20-0.22	0.00-1.50-2.90	0.0-0.2-0.5
AeoC2:									
Alford---------	0-6	2-5 -7	73-79-82	12-16-20	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-72	1-3 -5	63-69-77	22-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	72-80	3-9 -20	58-75-82	12-16-22	1.30-1.38-1.45	0.60-1.30-2.00	0.18-0.20-0.22	0.00-1.50-2.90	0.0-0.2-0.5
AgzB:									
Apalona--------	0-9	2-5 -10	68-78-82	14-17-22	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-25	2-4 -10	60-72-79	18-24-30	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	25-49	10-17-35	35-60-74	16-23-30	1.55-1.67-1.80	0.01-0.04-0.06	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	49-69	5-24-40	10-29-50	35-47-65	1.35-1.50-1.65	0.01-0.10-0.20	0.06-0.07-0.08	6.00-7.50-8.90	0.0-0.2-0.5
	69-90	18-37-65	10-39-47	15-24-35	1.40-1.55-1.70	0.01-0.10-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
	90-99	---	---	---	---	0.00-0.03-0.06	---	---	---
Zanesville-----	0-9	2-5 -10	70-77-82	16-18-26	1.20-1.45-1.65	0.60-1.30-2.00	0.17-0.23-0.26	0.00-1.50-2.90	1.0-2.0-3.0
	9-23	2-3 -8	58-68-74	24-29-32	1.40-1.45-1.60	0.60-1.30-2.00	0.16-0.21-0.25	1.50-4.50-5.90	0.2-0.5-0.8
	23-32	2-5 -10	56-67-78	20-28-34	1.45-1.50-1.60	0.06-0.18-0.20	0.14-0.16-0.18	0.00-1.50-2.90	0.1-0.2-0.2
	32-46	14-21-30	50-58-70	14-21-26	1.70-1.78-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.1-0.2
	46-56	14-40-55	20-34-60	18-26-38	1.40-1.55-1.75	0.06-0.13-0.20	0.06-0.07-0.08	0.00-2.90-5.90	0.0-0.1-0.2
	56-58	---	---	---	---	0.20-1.30-5.98	---	---	---
BbhA:									
Bartle---------	0-9	5-12-20	62-74-85	10-14-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.6-2.0
	9-17	5-12-15	65-72-83	12-16-20	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.2-0.5
	17-30	5-10-15	53-63-77	18-27-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.0-0.2-0.5
	30-50	5-10-15	53-65-77	18-25-32	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	50-80	5-22-40	40-53-65	18-25-32	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
BcrAW:									
Beanblossom----	0-7	10-18-35	45-65-70	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-24	10-19-50	40-65-75	10-16-22	1.40-1.45-1.50	2.00-4.00-6.00	0.09-0.18-0.21	0.00-1.50-2.90	1.0-1.5-2.0
	24-54	15-40-50	30-43-65	10-17-24	1.40-1.45-1.50	2.00-11.00-20.00	0.04-0.09-0.14	0.00-1.50-2.90	0.5-0.8-1.0
	54-60	---	---	---	---	0.00-0.01-0.06	---	---	---
BdoA:									
Bedford--------	0-9	2-6 -12	62-75-80	14-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-24	2-4 -6	62-68-76	22-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	24-51	4-4 -12	56-69-73	22-27-32	1.55-1.68-1.80	0.01-0.06-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
	51-80	3-8 -10	20-32-52	45-60-75	1.40-1.50-1.60	0.20-0.60-2.00	0.06-0.07-0.08	6.00-7.50-8.90	0.0-0.2-0.5

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
BdoB:									
Bedford--------	0-9	2-6 -12	62-75-80	14-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-24	2-4 -6	62-68-76	22-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	24-51	4-4 -12	56-69-73	22-27-32	1.55-1.68-1.80	0.01-0.06-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
	51-80	3-8 -10	20-32-52	45-60-75	1.40-1.50-1.60	0.20-0.60-2.00	0.06-0.07-0.08	6.00-7.50-8.90	0.0-0.2-0.5
BkeC2:									
Bloomfield-----	0-4	75-88-93	5-9 -15	2-3-10	1.45-1.55-1.65	6.00-13.00-20.00	0.07-0.08-0.09	0.00-1.50-2.90	0.5-0.8-1.5
	4-17	80-87-88	2-7 -12	2-6-10	1.45-1.55-1.65	6.00-13.00-20.00	0.08-0.10-0.12	0.00-0.80-2.90	0.0-0.2-1.0
	17-80	75-86-88	4-6 -20	5-8-10	1.60-1.70-1.80	2.00-11.00-20.00	0.08-0.10-0.12	0.00-0.80-2.90	0.0-0.2-0.5
Alvin----------	0-7	75-86-93	5-11-15	2-3-10	1.45-1.55-1.65	6.00-13.00-20.00	0.09-0.10-0.13	0.00-1.50-2.90	0.5-0.9-1.5
	7-31	42-62-78	12-23-48	10-15-17	1.45-1.55-1.65	2.00-4.00-6.00	0.15-0.17-0.19	0.00-1.50-2.90	0.0-0.2-0.5
	31-60	65-80-84	6-14-25	4-6-10	1.40-1.53-1.65	2.00-4.00-6.00	0.08-0.11-0.14	0.00-1.00-2.90	0.0-0.2-0.5
	60-80	70-87-90	6-9 -20	3-4-10	1.45-1.55-1.65	2.00-4.00-6.00	0.06-0.10-0.12	0.00-1.00-2.90	0.0-0.2-0.5
BuoA:									
Bromer---------	0-9	4-8 -15	67-77-82	12-15-18	1.30-1.45-1.65	0.60-1.30-2.00	0.17-0.23-0.26	0.00-1.50-2.90	1.0-1.8-3.0
	9-19	4-6 -10	66-75-82	14-19-24	1.40-1.50-1.60	0.60-1.30-2.00	0.17-0.21-0.26	0.00-1.50-2.90	0.3-0.5-0.8
	19-33	4-5 -10	58-66-72	24-29-32	1.40-1.50-1.65	0.60-1.30-2.00	0.14-0.19-0.21	0.00-4.00-5.90	0.2-0.3-0.5
	33-56	7-10-15	53-63-69	24-27-32	1.55-1.65-1.80	0.01-0.18-0.20	0.06-0.08-0.10	0.00-2.00-2.90	0.1-0.3-0.5
	56-80	3-8 -10	20-27-57	40-65-75	1.20-1.35-1.50	0.20-0.43-2.00	0.06-0.08-0.10	6.00-7.50-8.90	0.0-0.1-0.2
BvsG:									
Brussels-------	0-5	5-10-15	45-57-65	27-33-40	1.30-1.40-1.50	0.20-0.43-0.57	0.07-0.11-0.14	3.00-4.50-5.90	2.0-3.0-4.0
	5-35	2-5 -10	45-53-65	35-42-50	1.35-1.45-1.55	0.06-0.13-0.20	0.03-0.08-0.10	3.00-4.50-5.90	1.0-1.5-2.0
	35-60	2-5 -10	45-57-65	35-38-50	1.35-1.45-1.55	0.06-0.13-0.20	0.02-0.04-0.09	3.00-4.50-5.90	0.5-0.8-1.0
Rock outcrop.									
CbrD2:									
Caneyville-----	0-6	5-12-18	56-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-14	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	14-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-20.00	---	---	---
Haggatt--------	0-6	2-7 -12	62-73-82	12-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-16	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	16-44	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	44-60	---	---	---	---	0.20-5.81-20.00	---	---	---
Knobcreek------	0-7	2-5 -12	62-75-82	15-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	1.0-1.7-3.0
	7-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
CbsD3:									
Caneyville-----	0-5	5-12-18	51-60-75	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-11	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	11-33	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	33-60	---	---	---	---	0.06-1.30-6.00	---	---	---
Haggatt--------	0-5	2-7 -12	54-67-78	20-26-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-2.90-5.90	0.5-1.2-2.0
	5-11	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	11-42	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	42-60	---	---	---	---	0.06-1.30-6.00	---	---	---
Knobcreek------	0-5	2-5 -12	56-69-78	20-26-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-2.90-5.90	0.5-1.2-2.0
	5-13	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	13-60	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	60-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
CbxD4:									
Caneyville-----	0-3	5-12-18	51-60-75	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-0.8-1.0
	3-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-0.1-1.2
	10-30	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.1-1.0
	30-60	---	---	---	---	0.20-5.81-19.99	---	---	---
Haggatt--------	0-3	2-7 -12	54-65-78	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-0.8-1.0
	3-11	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	11-42	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	42-60	---	---	---	---	0.20-5.81-19.98	---	---	---
CcaG:									
Caneyville-----	0-8	5-12-18	57-69-80	12-19-25	1.20-1.38-1.55	0.60-1.30-2.00	0.17-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	8-14	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	14-33	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	33-60	---	---	---	---	0.06-1.30-6.00	---	---	---
Rock outcrop.									
CtaB:									
Crider---------	0-7	2-7 -12	62-74-83	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	7-43	2-5 -10	55-64-74	24-31-34	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-80	1-6 -10	24-29-50	40-65-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	80-82	---	---	---	---	0.20-5.81-19.99	---	---	---
CteC2:									
Crider---------	0-7	2-7 -12	62-74-83	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	7-43	2-5 -10	55-64-74	24-31-34	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-80	1-6 -10	24-29-50	40-65-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	80-82	---	---	---	---	0.20-5.81-19.99	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
CteC2:									
Vertrees-------	0-8	2-7 -12	62-71-80	15-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-20	1-4 -10	18-35-60	35-61-80	1.20-1.25-1.45	0.20-0.40-0.60	0.06-0.11-0.15	6.00-7.50-8.90	0.3-0.5-1.0
	20-46	1-3 -10	18-21-55	40-76-85	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	46-80	1-5 -10	18-21-55	40-74-80	1.15-1.20-1.40	0.20-0.40-0.60	0.06-0.11-0.14	6.00-7.50-8.90	0.1-0.2-0.5
CtwB:									
Crider---------	0-8	2-7 -12	62-74-80	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-30	2-5 -10	56-64-74	24-31-34	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-80	1-6 -10	24-29-50	40-65-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	80-82	---	---	---	---	0.20-5.81-19.98	---	---	---
Bedford--------	0-9	2-6 -12	64-75-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-24	2-4 -6	62-68-76	22-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	24-51	4-4 -12	56-69-73	22-27-32	1.55-1.68-1.80	0.01-0.06-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
	51-80	3-8 -10	20-32-52	45-60-75	1.40-1.50-1.60	0.20-0.60-2.00	0.06-0.07-0.08	6.00-7.50-8.90	0.0-0.2-0.5
Navilleton-----	0-8	2-4 -12	64-77-80	15-19-24	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-35	2-3 -10	58-69-74	24-28-32	1.40-1.50-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	35-65	3-6 -18	20-34-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	65-79	3-4 -18	20-36-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	79-83	---	---	---	---	0.00-0.40-6.00	---	---	---
DeaC2:									
Deuchars-------	0-8	3-6 -18	56-76-82	12-18-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-10	3-6 -18	56-74-82	14-20-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.23-0.27	0.00-1.50-2.90	0.5-1.0-1.5
	10-30	4-6 -15	51-65-74	22-29-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-55	4-8 -25	25-39-56	40-53-62	1.45-1.55-1.65	0.06-0.13-0.20	0.06-0.11-0.15	6.00-7.50-8.90	0.0-0.2-0.5
	55-62	4-8 -25	25-50-61	35-42-50	1.45-1.53-1.60	0.06-0.13-0.20	0.06-0.09-0.15	6.00-7.50-8.90	0.0-0.2-0.5
	62-80	---	---	---	---	0.00-0.01-0.06	---	---	---
Apalona--------	0-8	2-5 -10	66-76-82	14-19-24	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-25	2-4 -10	60-72-79	18-24-30	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	25-49	10-17-35	35-60-74	16-23-30	1.55-1.67-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	49-69	5-24-40	10-29-50	35-47-65	1.35-1.50-1.65	0.01-0.10-0.20	0.06-0.07-0.08	6.00-7.50-8.90	0.0-0.2-0.5
	69-90	37	10-39-47	15-24-35	1.40-1.55-1.70	0.01-0.10-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
	90-99	---	---	---	---	0.00-0.18-0.60	---	---	---
Wellston-------	0-8	3-7 -15	59-75-82	12-18-26	1.20-1.38-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-26	3-5 -15	51-69-79	18-26-34	1.40-1.53-1.65	0.60-1.30-2.00	0.17-0.19-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	26-41	20-40-62	30-37-62	18-23-30	1.30-1.48-1.65	0.60-1.30-2.00	0.12-0.15-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	41-54	35-54-65	12-28-48	15-18-30	1.30-1.45-1.60	0.60-1.30-2.00	0.06-0.11-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	54-60	---	---	---	---	0.00-0.18-0.60	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
DeaC3:									
Deuchars-------	0-6	3-6 -18	56-72-82	12-22-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	6-10	3-6 -18	56-74-82	14-20-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.23-0.27	0.00-1.50-2.90	0.5-1.0-1.5
	10-30	4-6 -15	51-65-74	22-29-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-55	4-8 -25	25-39-56	40-53-62	1.45-1.55-1.65	0.06-0.13-0.20	0.06-0.11-0.15	6.00-7.50-8.90	0.0-0.2-0.5
	55-62	4-8 -25	25-50-61	35-42-50	1.45-1.53-1.60	0.06-0.13-0.20	0.06-0.09-0.15	6.00-7.50-8.90	0.0-0.2-0.5
	62-80	---	---	---	---	0.00-0.01-0.06	---	---	---
Apalona--------	0-4	5-6 -15	63-71-75	20-23-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	4-19	2-4 -10	60-72-79	18-24-30	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	19-39	10-17-35	35-60-74	16-23-30	1.55-1.67-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	39-71	5-24-40	10-29-50	35-47-65	1.35-1.50-1.65	0.01-0.10-0.20	0.06-0.07-0.08	6.00-7.50-8.90	0.0-0.2-0.5
	71-90	18-37-65	10-39-47	15-24-35	1.40-1.55-1.70	0.01-0.10-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
	90-99	---	---	---	---	0.00-0.18-0.60	---	---	---
Wellston-------	0-3	3-7 -15	59-69-79	18-24-26	1.20-1.38-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	3-22	3-5 -15	51-69-79	18-26-34	1.40-1.53-1.65	0.60-1.30-2.00	0.17-0.19-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	22-33	20-40-52	30-37-62	18-23-30	1.30-1.48-1.65	0.60-1.30-2.00	0.12-0.15-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	33-50	35-54-65	12-28-48	15-18-30	1.30-1.45-1.60	0.60-1.30-2.00	0.06-0.11-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	50-60	---	---	---	---	0.00-0.18-0.60	---	---	---
EbhD2:									
Ebal-----------	0-7	6-13-25	50-69-80	12-18-26	1.20-1.35-1.50	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-13	6-13-32	50-65-76	18-22-26	1.40-1.50-1.60	0.60-1.30-2.00	0.09-0.17-0.24	3.00-4.50-5.90	0.0-0.5-1.0
	13-21	10-12-35	30-53-66	24-35-50	1.40-1.53-1.65	0.20-0.40-0.60	0.07-0.10-0.13	3.00-4.50-5.90	0.0-0.5-1.0
	21-48	4-6 -20	20-39-55	40-55-65	1.40-1.48-1.55	0.01-0.04-0.06	0.09-0.11-0.13	6.00-7.50-8.90	0.0-0.2-0.5
	48-80	4-6 -20	20-39-55	40-55-65	1.40-1.48-1.55	0.01-0.04-0.06	0.05-0.11-0.13	6.00-7.50-8.90	0.0-0.2-0.5
	80-90	---	---	---	---	0.00-0.01-0.06	---	---	---
Gilpin---------	0-8	10-24-38	50-58-78	12-18-24	1.20-1.35-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-22	10-35-50	25-44-72	18-21-34	1.30-1.40-1.50	0.60-1.30-2.00	0.08-0.12-0.16	0.00-1.50-5.90	0.2-0.5-0.8
	22-34	10-35-50	25-44-72	15-21-34	1.30-1.40-1.50	0.60-1.30-2.00	0.08-0.10-0.12	0.00-1.50-2.90	0.0-0.2-0.5
	34-40	---	---	---	---	0.00-0.18-0.60	---	---	---
Wellston-------	0-8	3-7 -15	59-75-82	12-18-26	1.20-1.38-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-26	3-5 -15	51-69-79	18-26-34	1.40-1.53-1.65	0.60-1.30-2.00	0.17-0.19-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	26-41	20-40-52	30-37-62	18-23-30	1.30-1.48-1.65	0.60-1.30-2.00	0.12-0.15-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	41-54	35-54-65	12-28-48	15-18-30	1.30-1.45-1.60	0.60-1.30-2.00	0.06-0.11-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	54-60	---	---	---	---	0.00-0.18-0.60	---	---	---
EbhD3:									
Ebal-----------	0-3	6-13-25	50-65-80	12-22-26	1.20-1.35-1.50	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	3-17	10-12-32	30-53-66	24-35-50	1.40-1.53-1.65	0.20-0.40-0.60	0.07-0.10-0.13	3.00-4.50-5.90	0.0-0.5-1.0
	17-44	4-6 -20	20-39-55	40-55-65	1.40-1.48-1.55	0.01-0.04-0.06	0.09-0.11-0.13	6.00-7.50-8.90	0.0-0.2-0.5
	44-67	4-6 -20	20-39-55	40-55-65	1.40-1.48-1.55	0.01-0.04-0.06	0.05-0.11-0.13	6.00-7.50-8.90	0.0-0.2-0.5
	67-80	---	---	---	---	0.00-0.01-0.06	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
EbhD3:									
Gilpin---------	0-4	10-24-32	50-55-72	18-21-26	1.20-1.35-1.50	0.60-1.30-2.00	0.18-0.20-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	4-22	10-35-50	25-44-72	18-21-34	1.30-1.40-1.50	0.60-1.30-2.00	0.08-0.12-0.16	0.00-1.50-5.90	0.2-0.5-0.8
	22-29	10-35-50	25-44-72	15-21-34	1.30-1.40-1.50	0.60-1.30-2.00	0.08-0.10-0.12	0.00-1.50-2.90	0.0-0.2-0.5
	29-40	---	---	---	---	0.00-0.18-0.60	---	---	---
Wellston-------	0-3	3-7 -15	59-69-79	18-24-26	1.20-1.38-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	3-22	3-5 -15	51-69-79	18-26-34	1.40-1.53-1.65	0.60-1.30-2.00	0.17-0.19-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	22-33	20-40-52	30-37-62	18-23-30	1.30-1.48-1.65	0.60-1.30-2.00	0.12-0.15-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	33-50	35-54-65	12-28-48	15-18-30	1.30-1.45-1.60	0.60-1.30-2.00	0.06-0.11-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	50-60	---	---	---	---	0.00-0.18-0.60	---	---	---
EepA:									
Elkinsville----	0-10	10-14-20	62-73-80	8-13-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-43	8-12-20	50-62-65	18-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-53	25-40-55	15-36-50	20-24-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	53-66	29-40-69	20-36-47	16-24-31	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	66-80	35-50-66	20-30-40	14-20-26	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	0.00-1.50-2.90	0.0-0.2-0.5
EepB2:									
Elkinsville----	0-10	10-14-20	62-73-80	8-13-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-43	8-12-20	50-62-74	18-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-53	25-40-55	20-36-50	20-24-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	53-66	29-40-69	20-36-47	16-24-31	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	66-80	35-50-66	20-30-40	14-20-26	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	0.00-1.50-2.90	0.0-0.2-0.5
EepC2:									
Elkinsville----	0-7	10-14-20	62-73-80	8-13-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-43	8-12-20	50-62-74	18-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-53	25-40-55	20-36-50	20-24-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	53-66	29-40-69	20-36-47	16-24-31	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	66-80	35-50-66	20-30-40	14-20-26	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	0.00-1.50-2.90	0.0-0.2-0.5
EepGQ:									
Elkinsville----	0-6	8-14-20	62-73-80	8-13-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.5-4.0
	6-36	8-12-20	50-63-74	18-25-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	36-75	25-40-55	20-38-47	16-22-28	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	75-80	35-50-66	20-30-40	14-20-26	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	0.00-1.50-2.90	0.0-0.2-0.5
EesA:									
Elkinsville----	0-8	8-19-22	52-66-80	12-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	8-38	8-13-20	50-59-74	18-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.4-1.0
	38-75	25-40-55	15-39-49	20-21-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	75-80	35-44-69	15-36-49	16-20-28	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
Millstone------	0-12	31-38-45	32-47-49	12-15-20	1.25-1.40-1.55	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-1.5-3.0
	12-59	35-40-65	7-41-51	14-19-28	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.17-0.19	0.00-1.50-2.90	0.0-0.2-0.8
	59-80	35-50-65	7-37-45	10-13-28	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.14-0.19	0.00-1.50-2.90	0.0-0.2-0.5

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
EesB:									
Elkinsville----	0-8	8-19-22	52-63-80	12-18-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.6-3.0
	8-32	8-13-20	50-59-74	18-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.4-1.0
	32-73	25-40-55	15-39-49	20-21-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	73-80	35-44-69	15-36-49	16-20-28	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
Millstone------	0-10	31-38-45	36-47-49	12-15-20	1.25-1.40-1.55	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-1.5-3.0
	10-62	35-40-65	7-41-51	14-19-28	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.17-0.19	0.00-1.50-2.90	0.0-0.2-0.8
	62-80	35-50-65	7-37-45	10-13-28	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.14-0.19	0.00-1.50-2.90	0.0-0.2-0.5
EesC2:									
Elkinsville----	0-7	8-19-22	52-63-80	12-18-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.6-3.0
	7-30	8-13-20	50-59-74	18-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.4-1.0
	30-56	25-40-55	15-39-49	20-21-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	56-80	35-44-69	15-36-49	16-20-28	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
Millstone------	0-8	31-36-45	32-47-49	14-17-24	1.25-1.40-1.55	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-1.5-3.0
	8-58	35-40-65	7-41-51	14-19-28	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.17-0.19	0.00-1.50-2.90	0.0-0.2-0.8
	58-80	35-50-65	7-37-45	10-13-28	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.14-0.19	0.00-1.50-2.90	0.0-0.2-0.5
EesFQ:									
Elkinsville----	0-5	8-19-22	52-66-80	12-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.5-4.0
	5-24	8-13-20	50-59-74	18-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.4-1.0
	24-50	25-40-55	15-39-49	20-21-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	50-80	35-44-69	15-36-49	16-20-28	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
Millstone------	0-6	31-38-45	35-47-49	12-15-20	1.25-1.40-1.55	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-2.5-4.0
	6-54	35-40-65	7-41-51	14-19-28	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.17-0.19	0.00-1.50-2.90	0.0-0.2-0.8
	54-80	35-50-65	7-37-45	10-13-28	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.14-0.19	0.00-1.50-2.90	0.0-0.2-0.5
GacAW:									
Gatchel--------	0-4	31-46-49	31-40-49	10-14-20	1.35-1.43-1.50	0.06-3.03-6.00	0.18-0.20-0.22	0.00-1.50-2.90	1.0-2.5-3.0
	4-18	40-60-75	10-25-49	10-15-20	1.50-1.58-1.65	2.00-4.00-6.00	0.15-0.17-0.19	0.00-1.50-2.90	0.5-0.9-1.2
	18-60	31-72-78	10-15-40	10-13-20	1.60-1.70-1.80	6.00-13.00-20.00	0.02-0.07-0.11	0.00-1.50-2.90	0.0-0.4-0.8
GbgB2:									
Gatton---------	0-9	5-8 -15	61-73-83	12-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-24	5-6 -15	55-68-71	24-26-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	24-66	10-15-25	45-62-65	12-23-30	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	66-80	15-35-45	25-32-55	24-33-38	1.40-1.50-1.60	0.20-1.10-2.00	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
GbgC2:									
Gatton---------	0-9	5-8 -15	61-73-83	12-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-24	5-6 -15	55-68-71	24-26-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	24-66	10-15-25	45-62-65	12-23-30	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	66-80	15-35-45	25-32-55	24-33-38	1.40-1.50-1.60	0.20-1.10-2.00	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
GbgC3:									
Gatton---------	0-6	5-8 -15	61-70-83	12-22-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	6-24	5-6 -15	55-68-71	24-26-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	24-66	10-15-25	45-62-65	12-23-30	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	66-80	15-35-45	25-32-55	24-33-38	1.40-1.50-1.60	0.20-1.10-2.00	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
GfcF:									
Gilpin---------	0-5	10-35-48	32-51-78	12-14-20	1.20-1.35-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.5-4.0
	5-8	6-13-32	50-65-76	18-22-26	1.40-1.50-1.60	0.60-1.30-2.00	0.09-0.17-0.24	3.00-4.50-5.90	0.2-0.5-1.0
	8-22	10-35-50	25-44-72	18-21-34	1.30-1.40-1.50	0.60-1.30-2.00	0.08-0.12-0.16	0.00-1.50-5.90	0.2-0.5-0.8
	22-34	10-35-50	25-44-72	15-21-34	1.30-1.40-1.50	0.60-1.30-2.00	0.08-0.10-0.12	0.00-1.50-2.90	0.0-0.2-0.5
	34-40	---	---	---	---	0.00-0.18-0.60	---	---	---
Tipsaw---------	0-2	40-63-70	22-32-46	4-5-16	1.30-1.45-1.60	2.00-4.00-6.00	0.17-0.20-0.22	0.00-1.50-2.90	3.0-5.0-8.0
	2-5	40-63-70	22-32-46	4-5-16	1.30-1.45-1.60	2.00-4.00-6.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-1.7-2.5
	5-20	40-61-70	22-30-46	6-9-18	1.40-1.50-1.60	0.60-3.30-6.00	0.06-0.10-0.13	0.00-1.50-2.90	0.2-0.6-1.0
	20-28	40-45-70	22-40-46	6-15-18	1.40-1.50-1.60	0.60-3.30-6.00	0.06-0.10-0.13	0.00-1.50-2.90	0.1-0.2-0.5
	28-60	---	---	---	---	0.00-0.18-0.60	---	---	---
Ebal-----------	0-5	6-13-25	50-69-80	12-18-26	1.20-1.35-1.50	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	2.0-4.0-6.0
	5-9	6-13-32	50-65-76	18-22-26	1.40-1.50-1.60	0.60-1.30-2.00	0.09-0.17-0.24	3.00-4.50-5.90	0.0-0.5-1.0
	9-20	10-12-35	30-53-75	24-35-50	1.40-1.53-1.65	0.20-0.40-0.60	0.07-0.10-0.13	3.00-4.50-5.90	0.0-0.5-1.0
	20-48	4-6 -20	20-39-55	40-55-65	1.40-1.48-1.55	0.01-0.04-0.06	0.09-0.11-0.13	6.00-7.50-8.90	0.0-0.2-0.5
	48-67	4-6 -20	20-39-55	40-55-65	1.40-1.48-1.55	0.01-0.04-0.06	0.05-0.11-0.13	6.00-7.50-8.90	0.0-0.2-0.5
	67-80	---	---	---	---	0.00-0.01-0.06	---	---	---
GgbG:									
Gilwood--------	0-6	6-8 -15	65-77-84	10-15-20	1.30-1.35-1.40	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	6-11	6-8 -15	63-73-80	14-19-22	1.30-1.35-1.40	0.60-1.30-2.00	0.15-0.19-0.23	0.00-1.50-2.90	0.5-0.8-1.0
	11-22	6-11-15	59-66-76	18-23-26	1.30-1.40-1.50	0.60-1.30-2.00	0.12-0.16-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	22-32	6-17-20	56-65-82	12-18-24	1.30-1.40-1.50	0.60-1.30-2.00	0.06-0.11-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	32-60	---	---	---	---	0.00-0.18-0.60	---	---	---
Brownstown-----	0-6	5-7 -30	55-81-89	6-12-18	1.30-1.35-1.40	0.06-1.03-2.00	0.15-0.20-0.24	0.00-1.50-2.90	1.0-2.5-4.0
	6-18	10-23-30	55-64-82	8-13-18	1.30-1.40-1.50	2.00-4.00-6.00	0.05-0.12-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	18-36	10-22-30	55-65-82	8-13-18	1.30-1.40-1.50	2.00-4.00-6.00	0.03-0.07-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	36-60	---	---	---	---	0.00-0.18-0.60	---	---	---
GmaG:									
Gnawbone-------	0-7	5-10-15	65-75-85	10-15-20	1.30-1.35-1.40	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	7-27	5-8 -15	51-63-71	24-29-34	1.40-1.50-1.60	0.60-1.30-2.00	0.11-0.16-0.20	0.00-1.50-2.90	0.0-0.5-1.0
	27-39	5-7 -15	53-70-75	15-23-32	1.40-1.50-1.60	0.60-1.30-2.00	0.07-0.12-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	39-60	---	---	---	---	0.00-0.01-0.06	---	---	---
Kurtz----------	0-6	2-4 -8	70-78-86	12-18-22	1.35-1.43-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	6-36	2-3 -8	57-67-73	25-30-35	1.35-1.45-1.55	0.60-1.30-2.00	0.10-0.16-0.22	3.00-4.50-5.90	0.0-0.5-1.0
	36-47	2-3 -8	60-69-73	25-28-32	1.50-1.58-1.65	0.60-1.30-2.00	0.05-0.10-0.14	3.00-4.50-5.90	0.0-0.2-0.5
	47-60	---	---	---	---	0.00-0.01-0.06	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
HcaA:									
Hatfield-------	0-7	10-17-19	59-65-78	12-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-20	8-12-15	59-64-72	20-24-26	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.18-0.21	0.00-1.50-2.90	0.2-0.4-0.8
	20-36	6-10-15	51-60-70	24-30-34	1.50-1.60-1.70	0.06-0.33-0.60	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	36-78	4-8 -32	34-63-72	24-29-34	1.55-1.65-1.75	0.01-0.18-0.20	0.06-0.09-0.12	0.00-1.50-2.90	0.0-0.2-0.5
	78-83	4-6 -35	33-69-75	20-25-32	1.50-1.60-1.70	0.01-0.10-0.20	0.06-0.09-0.12	0.00-1.50-2.90	0.0-0.2-0.5
HcgAH:									
Haymond--------	0-10	4-8 -15	65-77-80	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-44	10-14-25	57-71-80	10-15-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.1-1.5
	44-60	10-33-65	9-53-80	5-14-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22	0.00-1.50-2.90	0.2-0.7-1.0
HcgAW:									
Haymond--------	0-9	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-44	7-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	44-60	1-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22	0.00-1.50-2.90	0.0-0.5-1.0
HcpAP:									
Haymond--------	0-10	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-44	7-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	44-60	1-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22	0.00-1.50-2.90	0.0-0.5-1.0
HufAH:									
Huntington-----	0-12	5-10-20	60-68-75	18-22-26	1.30-1.45-1.60	0.60-1.30-2.00	0.24-0.25-0.26	0.00-1.50-2.90	2.0-3.5-4.0
	12-70	6-13-19	50-56-70	24-31-34	1.40-1.47-1.55	0.60-1.30-2.00	0.18-0.20-0.22	0.00-1.50-2.90	0.5-1.0-1.5
	70-80	10-23-60	20-53-75	15-24-30	1.40-1.47-1.55	0.60-1.30-2.00	0.14-0.17-0.20	0.00-1.50-2.90	0.0-0.5-1.0
HufAK:									
Huntington-----	0-12	5-10-20	60-68-75	18-22-26	1.30-1.45-1.60	0.60-1.30-2.00	0.24-0.25-0.26	0.00-1.50-2.90	2.0-3.5-4.0
	12-42	5-10-15	60-65-70	24-25-34	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.5-1.2-2.0
	42-80	5-19-60	25-53-70	15-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.16-0.22	0.00-1.50-2.90	0.0-0.2-0.5
JoaA:									
Johnsburg------	0-10	2-6 -15	65-78-82	12-16-20	1.30-1.47-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	10-36	2-5 -15	53-69-75	18-26-32	1.40-1.52-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	36-72	10-12-40	30-62-68	22-26-30	1.55-1.67-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	72-90	15-25-50	20-55-71	14-20-30	1.50-1.60-1.70	0.01-0.04-0.06	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	90-99	---	---	---	---	0.00-0.18-0.60	---	---	---
KunAW:									
Kintner--------	0-5	15-40-45	40-47-72	10-13-20	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.20-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	5-23	15-30-45	40-55-72	12-15-20	1.40-1.45-1.50	2.00-4.00-6.00	0.09-0.18-0.21	0.00-1.50-2.90	1.0-1.2-2.0
	23-48	45-65-75	15-25-40	5-10-15	1.40-1.45-1.50	2.00-11.00-20.00	0.04-0.09-0.14	0.00-1.50-2.90	0.5-0.8-1.0
	48-60	---	---	---	---	0.06-1.30-6.00	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
KxkC2:									
Knobcreek------	0-7	2-5 -12	62-75-82	15-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	1.0-1.7-3.0
	7-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Navilleton-----	0-8	2-4 -12	62-77-80	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-35	2-3 -10	58-69-74	24-28-32	1.40-1.50-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	35-43	3-6 -18	20-34-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	43-72	3-4 -18	20-36-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	72-82	---	---	---	---	0.06-1.30-6.00	---	---	---
KxlC3:									
Knobcreek------	0-6	2-5 -12	56-69-78	20-26-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-2.90-5.90	0.5-1.2-2.0
	6-13	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	13-60	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	60-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Haggatt--------	0-5	2-7 -12	54-67-78	20-26-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-2.90-5.90	0.5-1.2-2.0
	5-11	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	11-42	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	42-60	---	---	---	---	0.06-1.30-6.00	---	---	---
Caneyville-----	0-5	2-7 -12	54-65-78	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-40	---	---	---	---	0.20-5.81-19.98	---	---	---
KxlE3:									
Knobcreek------	0-6	2-5 -12	56-69-78	20-26-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-2.90-5.90	0.5-1.2-2.0
	6-13	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	13-60	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	60-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Haggatt--------	0-5	2-7 -12	54-67-78	20-26-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-2.90-5.90	0.5-1.2-2.0
	5-11	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	11-42	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	42-60	---	---	---	---	0.06-1.30-6.00	---	---	---
Caneyville-----	0-6	2-7 -12	54-65-78	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	6-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-19.99	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
KxmE2:									
Knobcreek------	0-7	2-5 -12	62-75-82	15-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	1.0-1.7-3.0
	7-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Haggatt--------	0-6	2-7 -12	62-73-82	12-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-16	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	16-44	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	44-60	---	---	---	---	0.06-1.30-6.00	---	---	---
Caneyville-----	0-6	5-12-18	56-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.06-1.30-6.00	---	---	---
KxoC2:									
Knobcreek------	0-7	2-5 -12	62-75-82	15-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	1.0-1.7-3.0
	7-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Navilleton-----	0-8	2-4 -12	62-77-80	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-35	2-3 -10	58-69-74	24-28-32	1.40-1.50-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	35-43	3-6 -18	20-34-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	43-72	3-4 -18	20-36-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	72-82	---	---	---	---	0.20-5.81-20.00	---	---	---
Haggatt--------	0-6	2-7 -12	62-73-82	12-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-16	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	16-44	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	44-60	---	---	---	---	0.20-5.81-20.00	---	---	---
KxpD2:									
Knobcreek------	0-7	2-5 -12	62-75-82	15-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	1.0-1.7-3.0
	7-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Haggatt--------	0-6	2-7 -12	62-73-82	12-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-16	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	16-44	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	44-60	---	---	---	---	0.20-5.81-20.00	---	---	---
Caneyville-----	0-6	5-12-18	56-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-20.00	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
KxrC3:									
Knobcreek------	0-5	2-5 -12	62-74-82	15-21-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	0.5-1.0-2.0
	5-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Navilleton-----	0-5	2-4 -12	62-77-80	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.0-2.0
	5-35	2-3 -10	58-69-74	24-28-32	1.40-1.50-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	35-43	3-6 -18	20-34-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	43-72	3-4 -18	20-36-52	45-60-75	1.30-1.45-1.60	0.06-0.13-0.20	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	72-82	---	---	---	---	0.20-5.81-19.98	---	---	---
Haggatt--------	0-5	2-7 -12	62-65-82	15-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.22-0.24	0.00-1.50-2.90	0.5-1.0-2.0
	5-16	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	16-44	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	44-60	---	---	---	---	0.20-5.81-19.98	---	---	---
KxsD3:									
Knobcreek------	0-5	2-5 -12	62-73-82	15-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	0.5-1.0-2.0
	5-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Haggatt--------	0-5	2-7 -12	62-72-82	12-21-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.22-0.24	0.00-1.50-2.90	0.5-1.0-2.0
	5-16	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	16-44	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.20-0.40-0.60	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	44-60	---	---	---	---	0.20-5.81-19.98	---	---	---
Caneyville-----	0-5	2-7 -12	54-65-78	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-19.99	---	---	---
KxtC2:									
Knobcreek------	0-7	2-5 -12	62-75-82	15-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.21-0.24	0.00-1.50-2.90	1.0-1.7-3.0
	7-18	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-63	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	63-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Haggatt--------	0-6	2-7 -12	62-73-82	12-20-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-16	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	16-44	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	44-60	---	---	---	---	0.20-5.81-19.98	---	---	---
Caneyville-----	0-6	5-12-18	56-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-40	---	---	---	---	0.20-5.81-19.98	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
KxtC3:									
Knobcreek------	0-6	2-5 -12	56-69-78	20-26-34	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-2.90-5.90	0.5-1.2-2.0
	6-13	2-4 -10	52-62-74	24-34-38	1.40-1.50-1.65	0.60-1.30-2.00	0.12-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	13-60	2-3 -20	20-32-53	45-65-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	60-80	2-10-20	20-34-53	45-56-73	1.30-1.45-1.60	0.06-0.20-0.60	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
Haggatt--------	0-5	2-7 -12	54-65-78	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-11	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	11-42	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	42-60	---	---	---	---	0.20-5.81-19.98	---	---	---
Caneyville-----	0-5	2-7 -12	54-65-78	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-10	5-10-15	50-59-70	24-31-38	1.40-1.50-1.70	0.60-1.30-2.00	0.13-0.17-0.21	3.00-4.50-5.90	0.0-1.0-1.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-19.99	---	---	---
LaaA:									
Laconia--------	0-7	2-3 -5	69-76-80	15-21-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	7-13	2-3 -5	69-76-80	15-21-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	1.0-1.2-2.0
	13-38	2-3 -5	52-63-70	22-34-45	1.40-1.50-1.60	0.20-0.40-0.60	0.14-0.18-0.22	3.00-4.50-5.90	0.5-0.8-1.0
	38-80	3-5 -10	35-50-62	35-45-60	1.50-1.60-1.70	0.06-0.13-0.20	0.08-0.14-0.16	6.00-7.50-8.90	0.0-0.2-0.5
LpoAK:									
Lindside-------	0-10	2-10-20	54-69-82	15-21-26	1.20-1.40-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-42	2-6 -15	51-66-78	20-28-34	1.40-1.50-1.60	0.60-1.30-2.00	0.17-0.20-0.22	3.00-4.50-5.90	0.5-1.2-2.0
	42-80	2-6 -25	51-70-80	18-24-34	1.40-1.50-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0.00-2.90-5.90	0.5-1.0-1.5
LpoAQ:									
Lindside-------	0-10	3-6 -15	65-79-87	10-15-25	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-41	3-8 -20	50-74-85	12-18-30	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.23	0.00-1.50-2.90	0.0-0.5-1.0
	41-60	3-10-55	35-70-75	10-20-25	1.40-1.53-1.65	0.60-1.84-6.00	0.08-0.15-0.21	0.00-1.50-2.90	0.0-0.2-0.5
McnGQ:									
Markland-------	0-4	2-8 -12	62-68-78	20-24-26	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.5-5.0
	4-28	2-3 -10	35-52-63	35-45-55	1.55-1.60-1.65	0.20-0.40-0.60	0.12-0.15-0.18	6.00-7.50-8.90	0.5-0.8-1.0
	28-59	2-3 -10	35-57-63	35-40-55	1.55-1.60-1.65	0.06-0.33-0.60	0.12-0.16-0.18	6.00-7.50-8.90	0.5-0.8-1.0
	59-80	2-6 -10	40-58-78	20-36-50	1.50-1.58-1.65	0.06-0.33-0.60	0.12-0.17-0.22	3.00-4.50-5.90	0.5-0.8-1.0
MdlD2:									
Markland-------	0-6	2-8 -12	62-69-78	20-23-26	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-25	2-3 -10	35-52-63	35-45-55	1.55-1.60-1.65	0.20-0.40-0.60	0.12-0.15-0.18	6.00-7.50-8.90	0.5-0.8-1.0
	25-42	2-3 -10	35-57-63	35-40-55	1.55-1.60-1.65	0.06-0.33-0.60	0.12-0.16-0.18	6.00-7.50-8.90	0.5-0.8-1.0
	42-80	2-6 -10	40-58-78	20-36-50	1.50-1.58-1.65	0.06-0.33-0.60	0.12-0.17-0.22	3.00-4.50-5.90	0.5-0.8-1.0

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
MdwD3:									
Markland-------	0-4	2-8 -15	51-60-71	27-32-39	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.19-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	4-18	2-3 -10	41-49-63	35-48-55	1.55-1.60-1.65	0.20-0.40-0.60	0.12-0.15-0.18	6.00-7.50-8.90	0.5-0.8-1.0
	18-40	2-3 -10	41-56-63	35-41-55	1.55-1.60-1.65	0.06-0.33-0.60	0.12-0.16-0.18	6.00-7.50-8.90	0.5-0.8-1.0
	40-80	2-6 -10	41-58-75	20-36-50	1.50-1.58-1.65	0.06-0.33-0.60	0.12-0.17-0.22	3.00-4.50-5.90	0.5-0.6-1.0
MhuA:									
McGary---------	0-11	2-7 -10	64-69-78	20-24-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	11-42	2-4 -6	40-51-63	35-45-55	1.45-1.53-1.60	0.06-0.33-0.60	0.11-0.15-0.18	6.00-7.50-8.90	0.0-0.5-1.0
	42-50	1-5 -20	40-50-64	35-45-55	1.45-1.53-1.60	0.01-0.10-0.20	0.11-0.15-0.18	6.00-7.50-8.90	0.0-0.2-0.5
	50-60	1-5 -20	40-56-64	24-39-50	1.50-1.58-1.65	0.01-0.04-0.06	0.11-0.15-0.18	3.00-4.50-5.90	0.0-0.2-0.5
NbhAK:									
Newark---------	0-7	2-10-20	55-70-82	14-20-26	1.20-1.40-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-66	2-8 -15	51-66-80	18-26-34	1.20-1.40-1.60	0.60-1.30-2.00	0.16-0.19-0.22	3.00-4.50-5.90	0.5-1.2-2.0
	66-80	2-8 -20	51-66-80	12-26-39	1.30-1.45-1.60	0.60-1.30-2.00	0.14-0.17-0.20	3.00-4.50-5.90	0.0-1.0-2.0
NbhAQ:									
Newark---------	0-10	2-7 -20	55-74-82	14-19-26	1.20-1.40-1.60	0.60-1.30-2.00	0.20-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-25	3-7 -15	51-63-73	24-30-34	1.40-1.55-1.70	0.60-1.30-2.00	0.18-0.20-0.22	2.00-4.50-5.90	0.5-1.5-2.0
	25-80	3-5 -15	46-63-69	27-32-39	1.40-1.55-1.70	0.06-0.13-0.20	0.12-0.15-0.18	3.00-4.50-7.00	0.0-0.2-1.0
NprAQ:									
Nolin----------	0-10	7-9 -12	64-72-81	12-19-24	1.30-1.43-1.55	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-47	7-9 -12	62-69-72	18-22-28	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.5-0.8-1.0
	47-60	10-31-67	25-52-75	8-17-26	1.35-1.48-1.60	0.60-3.30-6.00	0.10-0.16-0.22	0.00-1.50-2.90	0.0-0.2-0.5
Omz.									
Orthents									
PcrA:									
Pekin----------	0-8	3-12-20	60-76-87	10-12-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-29	3-7 -18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	29-58	3-9 -18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	58-80	10-20-60	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
PcrB2:									
Pekin----------	0-9	3-12-20	60-73-87	10-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	9-24	3-7 -18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	24-45	3-9 -18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	45-80	10-20-60	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
PhwB2:									
Percell--------	0-8	4-14-20	58-72-81	12-14-22	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-49	4-14-20	51-63-71	22-23-30	1.40-1.55-1.70	0.20-1.10-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.3-0.8
	49-70	1-3 -10	42-56-72	27-41-48	1.45-1.58-1.70	0.06-0.33-0.60	0.12-0.16-0.19	6.00-7.50-8.90	0.0-0.3-0.5
	70-80	1-2 -10	42-51-77	22-47-50	1.45-1.55-1.65	0.06-0.33-0.60	0.10-0.15-0.19	3.00-4.50-5.90	0.0-0.3-0.5

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
Pml. Pits, quarry									
Ppu. Pits, sand and gravel									
RmcE:									
Riney----------	0-8	30-40-50	30-45-49	12-15-24	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	8-45	40-50-55	10-25-40	20-25-30	1.25-1.48-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	45-76	40-58-75	10-24-35	15-18-25	1.25-1.48-1.70	0.60-1.30-2.00	0.11-0.15-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	76-80	65-85-94	1-5 -20	5-10-15	1.45-1.58-1.70	2.00-4.00-6.00	0.06-0.10-0.13	0.00-1.50-2.90	0.0-0.2-0.5
ScbA:									
Sciotoville----	0-9	5-25-35	50-58-83	12-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-27	5-17-25	50-58-73	22-25-32	1.40-1.55-1.70	0.60-1.30-2.00	0.16-0.18-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	27-50	5-22-45	30-50-75	20-28-32	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	50-80	5-38-65	20-42-80	15-20-34	1.50-1.60-1.70	0.06-1.03-2.00	0.06-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
ScbB2:									
Sciotoville----	0-9	5-25-35	50-56-80	12-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-27	5-17-25	50-58-73	22-25-32	1.40-1.55-1.70	0.60-1.30-2.00	0.16-0.18-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	27-50	5-22-45	30-50-75	20-28-32	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	50-80	5-38-65	20-42-80	15-20-34	1.50-1.60-1.70	0.06-1.03-2.00	0.06-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
SfyB:									
Shircliff------	0-8	2-10-15	59-69-77	18-21-26	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	8-19	2-6 -10	54-62-74	24-32-36	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.19-0.22	3.00-4.50-5.90	0.5-0.8-1.0
	19-43	2-4 -10	40-51-63	35-45-60	1.55-1.60-1.65	0.06-0.33-0.60	0.12-0.15-0.18	6.00-7.50-8.90	0.0-0.5-1.0
	43-80	2-4 -10	40-56-74	24-40-50	1.50-1.58-1.65	0.06-0.13-0.20	0.12-0.17-0.22	3.00-4.50-5.90	0.0-0.2-0.5
Uaa. Udorthents									
UekAQ: Urban land.									
Elkinsville----	0-10	10-14-20	62-73-80	8-13-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-43	8-12-20	50-62-74	18-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-53	25-40-55	20-36-50	20-24-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	53-66	29-40-69	20-36-47	16-24-31	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	66-80	35-50-66	20-30-40	14-20-26	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	0.00-1.50-2.90	0.0-0.2-0.5
Haymond--------	0-10	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-44	7-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	44-60	1-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22	0.00-1.50-2.90	0.0-0.5-1.0

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
UflC:									
Urban land.									
Crider----------	0-7	2-7 -12	62-74-83	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	7-43	2-5 -10	56-64-74	24-31-34	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-80	1-6 -10	24-29-50	40-65-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	80-82	---	---	---	---	0.20-5.81-19.99	---	---	---
Vertrees--------	0-8	2-7 -12	62-71-80	15-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-20	1-5 -20	18-27-60	35-68-80	1.20-1.25-1.45	0.20-0.40-0.60	0.06-0.11-0.15	6.00-7.50-8.90	0.3-0.5-1.0
	20-46	1-5 -20	18-27-55	40-68-80	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	46-80	1-5 -20	18-27-55	40-68-80	1.15-1.20-1.40	0.20-0.40-0.60	0.06-0.11-0.14	6.00-7.50-8.90	0.1-0.2-0.5
UnsB:									
Urban land.									
Udarents--------	0-3	5-19-20	45-50-68	27-31-35	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	3.00-4.50-5.90	0.5-0.8-2.0
	3-13	10-19-20	45-51-62	28-30-75	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.11-0.15	3.00-4.50-5.90	0.5-0.8-1.0
	13-60	5-9 -25	30-41-55	40-50-75	1.40-1.50-1.60	0.20-0.40-0.60	0.07-0.12-0.14	6.00-7.50-8.90	0.0-0.2-0.5
Usl.									
Udorthents									
VcaC3:									
Vertrees--------	0-4	2-7 -12	62-71-80	18-22-26	1.20-1.30-1.40	0.60-1.30-2.00	0.14-0.16-0.18	0.00-1.50-2.90	0.5-1.2-2.0
	4-20	1-5 -20	18-27-60	35-68-80	1.20-1.25-1.45	0.20-0.40-0.60	0.06-0.11-0.15	6.00-7.50-8.90	0.3-0.5-1.0
	20-46	1-5 -20	18-27-55	40-68-80	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	46-80	1-5 -20	18-27-55	40-68-80	1.15-1.20-1.40	0.20-0.40-0.60	0.06-0.11-0.14	6.00-7.50-8.90	0.1-0.2-0.5
Crider----------	0-7	2-7 -12	62-71-80	18-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	7-30	2-5 -10	56-64-74	24-31-34	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-80	1-6 -10	24-29-50	40-65-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	80-82	---	---	---	---	0.20-5.81-19.98	---	---	---
Caneyville------	0-5	5-12-18	51-60-75	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-10	1-3 -10	18-21-55	40-76-85	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-19.98	---	---	---
VcbD2:									
Vertrees--------	0-8	2-7 -12	62-71-80	15-22-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-20	1-5 -20	18-27-60	35-68-80	1.20-1.25-1.45	0.20-0.40-0.60	0.06-0.11-0.15	6.00-7.50-8.90	0.3-0.5-1.0
	20-46	1-5 -20	18-27-55	40-68-80	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	46-80	1-5 -20	18-27-55	40-68-80	1.15-1.20-1.40	0.20-0.40-0.60	0.06-0.11-0.14	6.00-7.50-8.90	0.1-0.2-0.5
Crider----------	0-7	2-7 -12	62-74-83	15-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	7-43	2-5 -10	56-64-74	24-31-34	1.40-1.53-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	43-80	1-6 -10	24-29-50	40-65-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.11-0.16	6.00-7.50-8.90	0.0-0.2-0.5
	80-82	---	---	---	---	0.20-5.81-19.99	---	---	---

Table 17.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
VcbD2:									
Caneyville-----	0-6	5-12-18	56-69-80	12-19-26	1.20-1.43-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	6-10	1-3 -10	18-21-55	40-76-85	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-19.99	---	---	---
VccD3:									
Vertrees-------	0-4	2-7 -12	62-71-83	18-22-26	1.20-1.30-1.40	0.60-1.30-2.00	0.14-0.16-0.18	0.00-1.50-2.90	0.5-1.2-2.0
	4-20	1-5 -20	18-27-60	35-68-80	1.20-1.25-1.45	0.20-0.40-0.60	0.06-0.11-0.15	6.00-7.50-8.90	0.3-0.5-1.0
	20-46	1-5 -20	18-27-55	40-68-80	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	46-80	1-5 -20	18-27-55	40-68-80	1.15-1.20-1.40	0.20-0.40-0.60	0.06-0.11-0.14	6.00-7.50-8.90	0.1-0.2-0.5
Haggatt--------	0-5	2-7 -12	54-65-78	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-11	2-5 -10	56-66-74	24-29-34	1.40-1.55-1.70	0.60-1.30-2.00	0.12-0.17-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	11-42	2-6 -10	20-34-53	45-60-75	1.35-1.50-1.65	0.60-1.30-2.00	0.07-0.12-0.16	6.00-7.50-8.90	0.0-0.5-1.0
	42-60	---	---	---	---	0.20-5.81-19.98	---	---	---
Caneyville-----	0-5	5-12-18	51-60-75	20-28-34	1.20-1.43-1.65	0.60-1.30-2.00	0.14-0.18-0.24	1.50-4.50-5.90	0.5-1.2-2.0
	5-10	1-3 -10	18-21-55	40-76-85	1.20-1.25-1.40	0.20-0.40-0.60	0.06-0.12-0.14	6.00-7.50-8.90	0.2-0.3-0.5
	10-36	5-8 -15	25-39-55	40-53-60	1.35-1.50-1.65	0.20-0.40-0.60	0.06-0.11-0.16	6.00-7.50-8.90	0.0-0.8-1.0
	36-60	---	---	---	---	0.20-5.81-19.99	---	---	---
W.									
Water									
WbkAP:									
Wilbur---------	0-8	8-9 -14	70-77-80	12-14-16	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-32	5-14-20	62-70-82	10-16-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	32-60	5-18-45	29-66-82	10-16-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.20-0.22	0.00-1.50-2.90	0.5-0.8-1.0
Newark---------	0-8	2-10-20	55-71-82	14-19-26	1.20-1.40-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-66	2-8 -15	51-66-80	18-26-34	1.20-1.40-1.60	0.60-1.30-2.00	0.16-0.19-0.22	3.00-4.50-5.90	0.5-1.2-2.0
	66-80	2-8 -20	51-66-80	12-26-39	1.30-1.45-1.60	0.60-1.30-2.00	0.14-0.17-0.20	3.00-4.50-5.90	0.0-1.0-2.0
WycAQ:									
Woodmere-------	0-10	2-9 -15	51-66-71	20-25-34	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.23	3.00-4.50-5.90	1.0-2.5-3.0
	10-30	5-7 -12	54-61-70	25-32-34	1.40-1.50-1.60	0.20-1.03-2.00	0.18-0.20-0.22	3.00-4.50-5.90	0.5-1.8-2.0
	30-42	5-8 -12	46-60-65	30-32-42	1.40-1.55-1.70	0.20-0.40-0.60	0.12-0.15-0.18	3.00-4.50-5.90	0.0-0.5-0.8
	42-80	5-6 -35	30-62-65	30-32-42	1.50-1.63-1.75	0.20-0.40-0.60	0.12-0.15-0.18	3.00-4.50-5.90	0.0-0.3-0.5

Table 18.—Erosion Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. The abbreviation "rv" means relative value. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
AeoB2:								
Alford------------------	0-9	.43	.43	5	5	56	150	4.0
	9-72	.49	.49					
	72-80	.55	.55					
AeoC2:								
Alford------------------	0-6	.43	.43	5	5	56	125	9.0
	6-72	.49	.49					
	72-80	.55	.55					
AgzB:								
Apalona-----------------	0-9	.55	.55	4	5	56	150	4.0
	9-25	.55	.55					
	25-49	.55	.55					
	49-69	.24	.32					
	69-90	.37	.55					
	90-99	---	---					
Zanesville--------------	0-9	.55	.55	4	5	56	150	4.0
	9-23	.55	.55					
	23-32	.55	.55					
	32-46	.55	.55					
	46-56	.24	.32					
	56-58	---	---					
BbhA:								
Bartle------------------	0-9	.55	.55	5	5	56	250	0.9
	9-17	.55	.55					
	17-30	.55	.55					
	30-50	.55	.55					
	50-80	.43	.55					
BcrAW:								
Beanblossom-------------	0-7	.43	.49	4	5	56	300	2.0
	7-24	.20	.43					
	24-54	.10	.32					
	54-60	---	---					
BdoA:								
Bedford-----------------	0-9	.55	.55	4	5	56	200	0.9
	9-24	.55	.55					
	24-51	.37	.55					
	51-80	.20	.24					
BdoB:								
Bedford-----------------	0-9	.55	.55	4	5	56	175	4.0
	9-24	.55	.55					
	24-51	.37	.55					
	51-80	.20	.24					
BkeC2:								
Bloomfield--------------	0-4	.05	.05	5	1	220	125	10.0
	4-17	.15	.15					
	17-80	.10	.10					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
BkeC2:								
Alvin-------------------	0-7	.10	.10	5	2	134	125	10.0
	7-31	.17	.17					
	31-60	.15	.15					
	60-80	.15	.15					
BuoA:								
Bromer------------------	0-9	.55	.55	4	5	56	300	0.9
	9-19	.55	.55					
	19-33	.49	.49					
	33-56	.37	.55					
	56-80	.20	.24					
BvsG:								
Brussels----------------	0-5	.15	.28	5	8	0	150	53.0
	5-35	.20	.28					
	35-60	.05	.20					
Rock outcrop.								
CbrD2:								
Caneyville--------------	0-6	.37	.43	2	5	56	100	18.0
	6-14	.43	.43					
	14-36	.17	.20					
	36-60	---	---					
Haggatt-----------------	0-6	.43	.43	3	6	48	100	16.0
	6-16	.28	.37					
	16-44	.15	.15					
	44-60	---	---					
Knobcreek---------------	0-7	.49	.49	5	6	48	100	16.0
	7-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					
CbsD3:								
Caneyville--------------	0-5	.32	.43	1	6	48	100	18.0
	5-11	.43	.43					
	11-33	.17	.20					
	33-60	---	---					
Haggatt-----------------	0-5	.37	.43	2	6	48	100	17.0
	5-11	.28	.37					
	11-42	.15	.15					
	42-60	---	---					
Knobcreek---------------	0-5	.43	.49	4	6	48	100	17.0
	5-13	.43	.49					
	13-60	.24	.28					
	60-80	.20	.24					
CbxD4:								
Caneyville--------------	0-3	.37	.37	1	6	48	100	13.0
	3-10	.43	.43					
	10-30	.17	.20					
	30-60	---	---					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
CbxD4:								
Haggatt	0-3	.37	.43	2	6	48	100	13.0
	3-11	.28	.37					
	11-42	.15	.15					
	42-60	---	---					
CcaG:								
Caneyville	0-8	.32	.37	2	5	56	150	41.0
	8-14	.43	.43					
	14-33	.17	.20					
	33-60	---	---					
Rock outcrop.								
CtaB:								
Crider	0-7	.43	.43	5	5	56	250	4.0
	7-43	.49	.49					
	43-80	.10	.15					
	80-82	---	---					
CteC2:								
Crider	0-7	.43	.43	5	5	56	125	9.0
	7-43	.49	.49					
	43-80	.10	.15					
	80-82	---	---					
Vertrees	0-8	.43	.43	5	6	48	100	9.0
	8-20	.10	.15					
	20-46	.15	.15					
	46-80	.10	.15					
CtwB:								
Crider	0-8	.43	.43	5	5	56	250	4.0
	8-30	.49	.49					
	30-80	.10	.15					
	80-82	---	---					
Bedford	0-9	.55	.55	4	5	56	250	4.0
	9-24	.55	.55					
	24-51	.37	.55					
	51-80	.20	.24					
Navilleton	0-8	.49	.49	5	5	56	250	4.0
	8-35	.49	.49					
	35-65	.24	.28					
	65-79	.24	.24					
	79-83	---	---					
DeaC2:								
Deuchars	0-8	.49	.49	4	5	56	125	9.0
	8-10	.49	.49					
	10-30	.49	.49					
	30-55	.24	.28					
	55-62	.28	.32					
	62-80	---	---					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
DeaC2:								
Apalona	0-8	.55	.55	4	5	56	125	9.0
	8-25	.55	.55					
	25-49	.55	.55					
	49-69	.24	.32					
	69-90	.37	.55					
	90-99	---	---					
Wellston	0-8	.49	.49	4	5	56	125	9.0
	8-26	.55	.55					
	26-41	.32	.49					
	41-54	.20	.43					
	54-60	---	---					
DeaC3:								
Deuchars	0-6	.49	.49	3	6	48	125	9.0
	6-10	.49	.49					
	10-30	.49	.49					
	30-55	.24	.28					
	55-62	.28	.32					
	62-80	---	---					
Apalona	0-4	.49	.49	3	6	48	125	9.0
	4-19	.55	.55					
	19-39	.55	.55					
	39-71	.24	.32					
	71-90	.37	.55					
	90-99	---	---					
Wellston	0-3	.49	.49	3	6	48	125	9.0
	3-22	.55	.55					
	22-33	.32	.49					
	33-50	.20	.43					
	50-60	---	---					
EbhD2:								
Ebal	0-7	.37	.49	4	5	56	75	17.0
	7-13	.28	.49					
	13-21	.10	.28					
	21-48	.24	.28					
	48-80	.24	.28					
	80-90	---	---					
Gilpin	0-8	.37	.43	3	5	56	75	17.0
	8-22	.24	.49					
	22-34	.15	.49					
	34-40	---	---					
Wellston	0-8	.49	.49	4	5	56	75	17.0
	8-26	.55	.55					
	26-41	.32	.49					
	41-54	.20	.43					
	54-60	---	---					
EbhD3:								
Ebal	0-3	.37	.49	3	6	48	75	17.0
	3-17	.10	.28					
	17-44	.24	.28					
	44-67	.24	.28					
	67-80	---	---					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
EbhD3:								
Gilpin------------------	0-4	.37	.43	2	6	48	75	17.0
	4-22	.24	.49					
	22-29	.15	.49					
	29-40	---	---					
Wellston----------------	0-3	.49	.49	3	6	48	75	17.0
	3-22	.55	.55					
	22-33	.32	.49					
	33-50	.20	.43					
	50-60	---	---					
EepA:								
Elkinsville-------------	0-10	.43	.43	5	5	56	200	0.9
	10-43	.43	.43					
	43-53	.28	.32					
	53-66	.28	.32					
	66-80	.24	.32					
EepB2:								
Elkinsville-------------	0-10	.43	.43	5	5	56	150	4.0
	10-43	.43	.43					
	43-53	.28	.32					
	53-66	.28	.32					
	66-80	.24	.32					
EepC2:								
Elkinsville-------------	0-7	.43	.43	5	5	56	125	9.0
	7-43	.43	.43					
	43-53	.28	.32					
	53-66	.28	.32					
	66-80	.24	.32					
EepGQ:								
Elkinsville-------------	0-6	.43	.43	5	5	56	100	40.0
	6-36	.43	.43					
	36-75	.28	.32					
	75-80	.24	.32					
EesA:								
Elkinsville-------------	0-8	.43	.43	5	5	56	200	0.9
	8-38	.43	.43					
	38-75	.28	.32					
	75-80	.28	.32					
Millstone---------------	0-12	.37	.43	5	5	56	200	0.9
	12-59	.43	.49					
	59-80	.28	.55					
EesB:								
Elkinsville-------------	0-8	.43	.43	5	5	56	150	4.0
	8-32	.43	.43					
	32-73	.28	.32					
	73-80	.28	.32					
Millstone---------------	0-10	.37	.43	5	5	56	150	4.0
	10-62	.43	.49					
	62-80	.28	.55					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
EesC2:								
Elkinsville-------------	0-7	.43	.43	5	5	56	125	9.0
	7-30	.43	.43					
	30-56	.28	.32					
	56-80	.28	.32					
Millstone---------------	0-8	.37	.43	5	5	56	125	9.0
	8-58	.43	.49					
	58-80	.28	.55					
EesFQ:								
Elkinsville-------------	0-5	.43	.43	5	5	56	35	29.0
	5-24	.43	.43					
	24-50	.28	.32					
	50-80	.28	.32					
Millstone---------------	0-6	.37	.43	5	5	56	35	29.0
	6-54	.43	.49					
	54-80	.28	.55					
GacAW:								
Gatchel-----------------	0-4	.24	.28	3	5	56	300	0.9
	4-18	.17	.24					
	18-60	.17	.20					
GbgB2:								
Gatton------------------	0-9	.55	.55	4	5	56	175	4.0
	9-24	.55	.55					
	24-66	.37	.43					
	66-80	.20	.24					
GbgC2:								
Gatton------------------	0-9	.55	.55	4	5	56	175	9.0
	9-24	.55	.55					
	24-66	.37	.43					
	66-80	.20	.24					
GbgC3:								
Gatton------------------	0-6	.55	.55	3	6	48	175	9.0
	6-24	.55	.55					
	24-66	.37	.43					
	66-80	.20	.24					
GfcF:								
Gilpin------------------	0-5	.32	.37	3	5	56	125	25.0
	5-8	.37	.49					
	8-22	.24	.49					
	22-34	.15	.49					
	34-40	---	---					
Tipsaw------------------	0-2	.24	.43	3	3	86	125	25.0
	2-5	.24	.43					
	5-20	.28	.55					
	20-28	.28	.55					
	28-60	---	---					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
GfcF:								
Ebal	0-5	.32	.43	4	5	56	125	25.0
	5-9	.37	.49					
	9-20	.10	.28					
	20-48	.24	.28					
	48-67	.24	.28					
	67-80	---	---					
GgbG:								
Gilwood	0-6	.32	.43	2	5	56	200	38.0
	6-11	.37	.55					
	11-22	.28	.55					
	22-32	.10	.55					
	32-60	---	---					
Brownstown	0-6	.32	.43	2	5	56	200	48.0
	6-18	.32	.64					
	18-36	.10	.64					
	36-60	---	---					
GmaG:								
Gnawbone	0-7	.43	.43	3	5	56	300	45.0
	7-27	.43	.49					
	27-39	.49	.55					
	39-60	---	---					
Kurtz	0-6	.37	.43	4	5	56	300	35.0
	6-36	.43	.49					
	36-47	.43	.49					
	47-60	---	---					
HcaA:								
Hatfield	0-7	.49	.55	4	5	56	300	0.9
	7-20	.49	.55					
	20-36	.43	.49					
	36-78	.49	.55					
	78-83	.49	.55					
HcgAH:								
Haymond	0-10	.43	.43	5	5	56	300	0.9
	10-44	.55	.55					
	44-60	.43	.49					
HcgAW:								
Haymond	0-9	.43	.43	5	5	56	300	0.9
	9-44	.55	.55					
	44-60	.43	.49					
HcpAP:								
Haymond	0-10	.43	.43	5	5	56	300	0.9
	10-44	.55	.55					
	44-60	.43	.49					
HufAH:								
Huntington	0-12	.32	.32	5	6	48	300	0.9
	12-70	.43	.43					
	70-80	.37	.37					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
HufAK:								
Huntington	0-12	.32	.32	5	6	48	300	0.9
	12-42	.37	.37					
	42-80	.43	.43					
JoaA:								
Johnsburg	0-10	.55	.55	4	5	56	300	0.9
	10-36	.55	.55					
	36-72	.49	.55					
	72-90	.37	.49					
	90-99	---	---					
KunAW:								
Kintner	0-5	.28	.32	3	5	56	300	1.5
	5-23	.37	.43					
	23-48	.10	.28					
	48-60	---	---					
KxkC2:								
Knobcreek	0-7	.49	.49	5	6	48	150	9.0
	7-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					
Navilleton	0-8	.49	.49	5	5	56	150	9.0
	8-35	.49	.49					
	35-43	.24	.28					
	43-72	.24	.24					
	72-82	---	---					
KxlC3:								
Knobcreek	0-6	.43	.49	4	6	48	150	9.0
	6-13	.43	.49					
	13-60	.24	.28					
	60-80	.20	.24					
Haggatt	0-5	.37	.43	2	6	48	150	9.0
	5-11	.28	.37					
	11-42	.15	.15					
	42-60	---	---					
Caneyville	0-5	.37	.43	1	6	48	150	9.0
	5-10	.43	.43					
	10-36	.17	.20					
	36-40	---	---					
KxlE3:								
Knobcreek	0-6	.43	.49	4	6	48	100	18.0
	6-13	.43	.49					
	13-60	.24	.28					
	60-80	.20	.24					
Haggatt	0-5	.37	.43	2	6	48	100	18.0
	5-11	.28	.37					
	11-42	.15	.15					
	42-60	---	---					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
KxlE3:								
Caneyville--------------	0-6	.37	.43	1	6	48	100	18.0
	6-10	.43	.43					
	10-36	.17	.20					
	36-60	---	---					
KxmE2:								
Knobcreek---------------	0-7	.49	.49	5	6	48	100	18.0
	7-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					
Haggatt-----------------	0-6	.43	.43	3	6	48	100	18.0
	6-16	.28	.37					
	16-44	.15	.15					
	44-60	---	---					
Caneyville--------------	0-6	.37	.43	2	5	56	100	18.0
	6-10	.43	.43					
	10-36	.17	.20					
	36-60	---	---					
KxoC2:								
Knobcreek---------------	0-7	.49	.49	5	6	48	150	9.0
	7-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					
Navilleton--------------	0-8	.49	.49	5	5	56	150	7.0
	8-35	.49	.49					
	35-43	.24	.28					
	43-72	.24	.24					
	72-82	---	---					
Haggatt-----------------	0-6	.43	.43	3	6	48	150	9.0
	6-16	.28	.37					
	16-44	.15	.15					
	44-60	---	---					
KxpD2:								
Knobcreek---------------	0-7	.49	.49	5	6	48	100	16.0
	7-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					
Haggatt-----------------	0-6	.43	.43	3	6	48	100	16.0
	6-16	.28	.37					
	16-44	.15	.15					
	44-60	---	---					
Caneyville--------------	0-6	.37	.43	2	5	56	100	18.0
	6-10	.43	.43					
	10-36	.17	.20					
	36-60	---	---					
KxrC3:								
Knobcreek---------------	0-5	.49	.49	4	6	48	150	9.0
	5-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
KxrC3:								
Navilleton--------------	0-5	.49	.49	4	5	56	150	7.0
	5-35	.49	.49					
	35-43	.24	.28					
	43-72	.24	.24					
	72-82	---	---					
Haggatt-----------------	0-5	.43	.43	2	6	48	150	9.0
	5-16	.28	.37					
	16-44	.15	.15					
	44-60	---	---					
KxsD3:								
Knobcreek---------------	0-5	.49	.49	4	6	48	100	16.0
	5-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					
Haggatt-----------------	0-5	.43	.43	2	6	48	100	16.0
	5-16	.28	.37					
	16-44	.15	.15					
	44-60	---	---					
Caneyville--------------	0-5	.37	.43	1	6	48	100	18.0
	5-10	.43	.43					
	10-36	.17	.20					
	36-60	---	---					
KxtC2:								
Knobcreek---------------	0-7	.49	.49	5	6	48	150	9.0
	7-18	.43	.49					
	18-63	.24	.28					
	63-80	.20	.24					
Haggatt-----------------	0-6	.43	.43	3	6	48	150	9.0
	6-16	.28	.37					
	16-44	.15	.15					
	44-60	---	---					
Caneyville--------------	0-6	.37	.43	2	5	56	150	9.0
	6-10	.43	.43					
	10-36	.17	.20					
	36-40	---	---					
KxtC3:								
Knobcreek---------------	0-6	.43	.49	4	6	48	150	9.0
	6-13	.43	.49					
	13-60	.24	.28					
	60-80	.20	.24					
Haggatt-----------------	0-5	.37	.43	2	6	48	125	9.0
	5-11	.28	.37					
	11-42	.15	.15					
	42-60	---	---					
Caneyville--------------	0-5	.37	.43	1	6	48	125	13.0
	5-10	.43	.43					
	10-36	.17	.20					
	36-60	---	---					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
LaaA:								
Laconia	0-7	.49	.49	4	6	48	300	0.5
	7-13	.49	.49					
	13-38	.37	.37					
	38-80	.24	.28					
LpoAK:								
Lindside	0-10	.43	.43	5	6	48	300	0.9
	10-42	.37	.37					
	42-80	.37	.37					
LpoAQ:								
Lindside	0-10	.43	.43	5	5	56	300	0.9
	10-41	.49	.49					
	41-60	.28	.49					
McnGQ:								
Markland	0-4	.43	.43	4	6	48	100	36.0
	4-28	.28	.28					
	28-59	.32	.32					
	59-80	.43	.43					
MdlD2:								
Markland	0-6	.49	.49	4	6	48	75	14.0
	6-25	.28	.28					
	25-42	.32	.32					
	42-80	.43	.43					
MdwD3:								
Markland	0-4	.37	.37	3	6	48	75	14.0
	4-18	.28	.28					
	18-40	.32	.32					
	40-80	.43	.43					
MhuA:								
McGary	0-11	.49	.49	4	6	48	200	0.9
	11-42	.37	.37					
	42-50	.28	.28					
	50-60	.32	.32					
NbhAK:								
Newark	0-7	.43	.43	5	6	48	300	0.5
	7-66	.43	.43					
	66-80	.49	.49					
NbhAQ:								
Newark	0-10	.37	.37	5	5	56	300	0.5
	10-25	.32	.32					
	25-80	.37	.37					
NprAQ:								
Nolin	0-10	.43	.43	5	5	56	300	0.9
	10-47	.49	.49					
	47-60	.43	.55					
Omz.								
Orthents								

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
PcrA:								
Pekin-------------------	0-8	.55	.55	4	5	56	250	0.9
	8-29	.55	.55					
	29-58	.55	.55					
	58-80	.49	.55					
PcrB2:								
Pekin-------------------	0-9	.55	.55	4	5	56	175	4.0
	9-24	.55	.55					
	24-45	.55	.55					
	45-80	.49	.55					
PhwB2:								
Percell-----------------	0-8	.49	.49	5	5	56	150	4.0
	8-49	.49	.49					
	49-70	.37	.37					
	70-80	.43	.43					
Pml:								
Pits, quarry								
Ppu.								
Pits, sand and gravel								
RmcE:								
Riney-------------------	0-8	.32	.32	5	5	56	100	24.0
	8-45	.17	.20					
	45-76	.10	.15					
	76-80	.10	.10					
ScbA:								
Sciotoville-------------	0-9	.49	.49	4	5	56	200	0.9
	9-27	.49	.55					
	27-50	.43	.49					
	50-80	.43	.49					
ScbB2:								
Sciotoville-------------	0-9	.49	.49	4	5	56	150	3.0
	9-27	.49	.55					
	27-50	.43	.49					
	50-80	.43	.49					
SfyB:								
Shircliff---------------	0-8	.49	.49	4	6	48	150	4.0
	8-19	.43	.43					
	19-43	.28	.28					
	43-80	.37	.37					
Uaa.								
Udorthents								
UekAQ:								
Urban land.								
Elkinsville-------------	0-10	.43	.43	5	5	56	300	3.0
	10-43	.43	.43					
	43-53	.28	.32					
	53-66	.28	.32					
	66-80	.24	.32					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
UekAQ:								
Haymond	0-10	.43	.43	5	5	56	300	0.9
	10-44	.55	.55					
	44-60	.43	.49					
UflC:								
Urban land.								
Crider	0-7	.43	.43	5	5	56	125	9.0
	7-43	.49	.49					
	43-80	.10	.15					
	80-82	---	---					
Vertrees	0-8	.43	.43	5	6	48	100	9.0
	8-20	.17	.28					
	20-46	.28	.28					
	46-80	.17	.28					
UnsB:								
Urban land.								
Udarents	0-3	.32	.37	4	6	48	125	6.0
	3-13	.20	.37					
	13-60	.10	.20					
Usl.								
Udorthents								
VcaC3:								
Vertrees	0-4	.28	.37	4	7	38	150	9.0
	4-20	.17	.28					
	20-46	.28	.28					
	46-80	.17	.28					
Crider	0-7	.43	.43	4	6	48	125	9.0
	7-30	.49	.49					
	30-80	.10	.15					
	80-82	---	---					
Caneyville	0-5	.37	.37	1	6	48	125	13.0
	5-10	.15	.15					
	10-36	.17	.20					
	36-60	---	---					
VcbD2:								
Vertrees	0-8	.43	.43	5	6	48	125	16.0
	8-20	.17	.28					
	20-46	.28	.28					
	46-80	.17	.28					
Crider	0-7	.43	.43	5	5	56	125	16.0
	7-43	.49	.49					
	43-80	.10	.15					
	80-82	---	---					

Table 18.—Erosion Properties of the Soils—Continued

Map symbol and soil name	Depth	Erosion Kw	Erosion Kf	Erosion T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
VcbD2:								
Caneyville--------------	0-6	.37	.43	2	5	56	100	18.0
	6-10	.15	.15					
	10-36	.17	.20					
	36-60	---	---					
VccD3:								
Vertrees----------------	0-4	.28	.37	4	7	38	125	16.0
	4-20	.17	.28					
	20-46	.28	.28					
	46-80	.17	.28					
Haggatt-----------------	0-5	.37	.43	2	6	48	100	16.0
	5-11	.28	.37					
	11-42	.15	.15					
	42-60	---	---					
Caneyville--------------	0-5	.37	.37	1	6	48	100	18.0
	5-10	.15	.15					
	10-36	.17	.20					
	36-60	---	---					
W.								
Water								
WbkAP:								
Wilbur------------------	0-8	.43	.43	5	5	56	300	0.9
	8-32	.55	.55					
	32-60	.49	.49					
Newark------------------	0-8	.43	.43	5	5	56	300	0.5
	8-66	.43	.43					
	66-80	.49	.49					
WycAQ:								
Woodmere----------------	0-10	.37	.37	5	6	48	300	1.0
	10-30	.43	.43					
	30-42	.37	.37					
	42-80	.37	.37					

Table 19.—Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated. Properties list low, representative, and high values separated by a dash)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
AeoB2:					
Alford	0-9	7.0-11.0-24.0	4.0-8.0-14.0	4.5-5.9-7.3	0
	9-72	7.0-12.0-21.0	5.0-10.0-16.0	4.5-5.0-5.5	0
	72-80	4.0-8.0-12.0	3.0-6.0-9.0	4.5-5.5-6.5	0
AeoC2:					
Alford	0-6	7.0-11.0-24.0	4.0-8.0-14.0	4.5-5.9-7.3	0
	6-72	7.0-12.0-21.0	5.0-10.0-16.0	4.5-5.0-5.5	0
	72-80	4.0-8.0-12.0	3.0-6.0-9.0	4.5-5.5-6.5	0
AgzB:					
Apalona	0-9	7.0-11.0-20.0	4.0-7.0-10.0	4.5-5.9-7.3	0
	9-25	11.0-13.0-16.0	8.0-10.0-13.0	4.5-5.1-6.0	0
	25-49	---	6.0-11.0-15.0	4.5-4.7-5.5	0
	49-69	---	12.0-18.0-28.0	4.5-5.0-5.5	0
	69-90	9.0-13.0-17.0	7.0-11.0-15.0	5.1-5.4-6.5	0
	90-99	---	---	5.1-5.4-6.5	---
Zanesville	0-9	7.0-12.0-20.0	5.0-8.0-10.0	4.5-5.9-7.3	0
	9-23	10.0-16.0-18.0	7.0-12.0-15.0	4.5-4.7-6.5	0
	23-32	---	6.0-12.0-15.0	4.5-4.9-5.5	0
	32-46	---	6.0-9.0-12.0	4.5-5.1-5.5	0
	46-56	---	6.0-11.0-27.0	4.5-5.0-5.5	0
	56-58	---	---	---	---
BbhA:					
Bartle	0-9	5.0-10.0-15.0	3.0-7.0-12.0	4.5-5.9-7.3	0
	9-17	4.0-8.0-14.0	3.0-7.0-12.0	3.5-5.1-6.0	0
	17-30	10.0-13.0-19.0	8.0-11.0-15.0	3.5-4.4-6.0	0
	30-50	10.0-13.0-19.0	8.0-11.0-15.0	3.5-4.5-5.5	0
	50-80	6.0-11.0-14.0	5.0-9.0-12.0	4.5-5.0-7.3	0
BcrAW:					
Beanblossom	0-7	7.0-13.0-19.0	5.0-11.0-17.0	5.1-6.2-7.3	0
	7-24	5.0-9.0-14.0	3.0-7.0-12.0	5.1-6.0-7.3	0
	24-54	4.0-9.0-14.0	---	5.6-6.0-6.5	0
	54-60	---	---	5.6-6.0-6.5	---
BdoA:					
Bedford	0-9	10.0-15.0-20.0	6.0-8.0-12.0	4.5-5.9-7.3	0
	9-24	11.0-16.0-24.0	9.0-14.0-22.0	3.5-5.2-6.0	0
	24-51	---	8.0-12.0-15.0	3.5-4.5-5.5	0
	51-80	---	18.0-31.0-45.0	3.5-5.1-5.5	0
BdoB:					
Bedford	0-9	10.0-15.0-20.0	6.0-8.0-12.0	4.5-5.9-7.3	0
	9-24	11.0-16.0-24.0	9.0-14.0-22.0	3.5-5.2-6.0	0
	24-51	---	8.0-12.0-15.0	3.5-4.5-5.5	0
	51-80	---	18.0-31.0-45.0	3.5-5.1-5.5	0
BkeC2:					
Bloomfield	0-4	2.0-5.0-10.0	1.0-4.0-8.0	5.1-6.5-7.3	0
	4-17	2.0-3.0-5.0	1.0-2.0-4.0	5.1-5.9-7.3	0
	17-80	3.0-4.0-6.0	2.0-3.0-5.0	5.1-6.1-7.3	0

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
BkeC2:					
Alvin----------------	0-7	4.0-7.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	7-31	5.0-7.0-10.0	4.0-6.0-8.0	5.1-5.4-6.5	0
	31-60	4.0-5.0-8.0	3.0-4.0-7.0	5.1-5.4-6.5	0
	60-80	2.0-3.0-5.0	1.0-2.0-4.0	5.1-5.6-6.5	0
BuoA:					
Bromer---------------	0-9	8.0-11.0-22.0	6.0-8.0-12.0	4.5-5.9-7.3	0
	9-19	7.0-11.0-14.0	5.0-8.0-11.0	4.5-4.9-7.3	0
	19-33	---	8.0-14.0-17.0	4.5-4.6-5.5	0
	33-56	---	7.0-10.0-13.0	4.5-4.9-5.5	0
	56-80	20.0-25.0-30.0	16.0-20.0-24.0	4.5-6.5-7.3	0
BvsG:					
Brussels-------------	0-5	22.3-27.2-32.7	---	6.1-7.5-7.8	0-3-5
	5-35	27.5-33.2-38.9	---	6.1-7.5-8.4	0-3-5
	35-60	26.7-32.4-37.9	---	6.1-7.6-8.4	0-3-5
Rock outcrop.					
CbrD2:					
Caneyville-----------	0-6	8.0-13.0-20.0	5.0-7.0-12.0	5.1-5.9-7.3	0
	6-14	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	14-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---
Haggatt--------------	0-6	8.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	6-16	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	16-44	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	44-60	---	---	---	---
Knobcreek------------	0-7	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	7-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	22.0-29.0-40.0	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
CbsD3:					
Caneyville-----------	0-5	10.0-14.0-20.0	5.0-9.0-15.0	5.1-5.9-7.3	0
	5-11	10.0-15.0-20.0	8.0-12.0-16.0	5.1-5.8-7.3	0
	11-33	20.0-29.0-37.0	16.0-23.0-30.0	5.1-5.8-7.8	0-0-5
	33-60	---	---	---	---
Haggatt--------------	0-5	10.0-14.0-22.0	5.0-9.0-13.0	4.5-5.9-7.3	0
	5-11	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	11-42	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	42-60	---	---	---	---
Knobcreek------------	0-5	10.0-16.0-24.0	5.0-11.0-17.0	4.5-5.9-7.3	0
	5-13	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	13-60	22.0-29.0-40.0	20.0-28.0-38.0	4.5-5.0-5.5	0
	60-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
CbxD4:					
Caneyville-----------	0-3	10.0-14.0-20.0	5.0-9.0-15.0	5.1-5.9-7.3	0
	3-10	10.0-15.0-20.0	8.0-12.0-16.0	5.1-5.8-7.3	0
	10-30	20.0-29.0-37.0	16.0-23.0-30.0	5.1-5.8-7.8	0-0-5
	30-60	---	---	---	---

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
CbxD4:					
Haggatt--------------	0-3	10.0-14.0-22.0	5.0-9.0-13.0	5.1-5.9-7.3	0
	3-11	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	11-42	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	42-60	---	---	---	---
CcaG:					
Caneyville-----------	0-8	10.0-14.0-20.0	5.0-11.0-16.0	5.1-5.8-7.3	0
	8-14	10.0-15.0-20.0	8.0-12.0-16.0	5.1-5.8-7.3	0
	14-33	20.0-29.0-37.0	16.0-23.0-30.0	5.1-5.8-7.8	0-0-5
	33-60	---	---	---	---
Rock outcrop.					
CtaB:					
Crider---------------	0-7	8.0-11.0-18.0	5.0-8.0-15.0	4.5-5.9-7.3	0
	7-43	12.0-15.0-18.0	9.0-12.0-15.0	4.5-5.3-7.3	0
	43-80	15.0-30.0-38.0	14.0-28.0-36.0	4.5-5.9-6.0	0
	80-82	---	---	---	---
CteC2:					
Crider---------------	0-7	8.0-11.0-18.0	5.0-8.0-15.0	4.5-5.9-7.3	0
	7-43	12.0-15.0-18.0	9.0-12.0-15.0	4.5-5.3-7.3	0
	43-80	15.0-30.0-38.0	14.0-28.0-36.0	4.5-5.9-6.0	0
	80-82	---	---	---	---
Vertrees-------------	0-8	8.0-11.0-18.0	5.0-8.0-15.0	4.5-5.9-7.3	0
	8-20	15.0-29.0-32.0	11.0-18.0-23.0	4.5-6.6-7.3	0
	20-46	15.0-27.0-32.0	11.0-18.0-23.0	4.5-5.0-6.0	0
	46-80	15.0-27.0-32.0	11.0-18.0-23.0	4.5-6.6-7.3	0
CtwB:					
Crider---------------	0-8	8.0-14.0-20.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	8-30	12.0-15.0-18.0	9.0-12.0-15.0	4.5-5.3-7.3	0
	30-80	15.0-30.0-38.0	14.0-28.0-36.0	4.5-5.9-6.0	0
	80-82	---	---	---	---
Bedford--------------	0-9	10.0-15.0-20.0	6.0-8.0-12.0	4.5-5.9-7.3	0
	9-24	11.0-16.0-25.0	9.0-14.0-22.0	3.5-5.2-6.0	0
	24-51	---	8.0-12.0-15.0	3.5-4.5-5.5	0
	51-80	---	18.0-31.0-45.0	3.5-5.1-5.5	0
Navilleton-----------	0-8	8.0-15.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	8-35	9.0-14.0-23.0	7.0-12.0-20.0	4.5-5.3-7.3	0
	35-65	---	18.0-33.0-45.0	4.5-5.0-5.5	0
	65-79	20.0-32.0-40.0	---	5.6-7.0-7.8	0
	79-83	---	---	---	---
DeaC2:					
Deuchars-------------	0-8	7.0-12.0-20.0	4.0-7.0-15.0	4.5-5.9-7.3	0
	8-10	6.0-9.0-15.0	4.0-7.0-12.0	4.5-5.1-6.5	0
	10-30	---	9.0-12.0-16.0	3.5-4.5-5.5	0
	30-55	28.0-32.0-41.0	25.0-29.0-38.0	3.5-4.7-6.0	0
	55-62	20.0-27.0-35.0	15.0-20.0-26.0	4.5-5.0-7.3	0
	62-80	---	---	4.5-5.0-7.3	---

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
DeaC2:					
Apalona	0-8	7.0-11.0-20.0	4.0-7.0-10.0	4.5-5.9-7.3	0
	8-25	11.0-13.0-16.0	8.0-10.0-13.0	4.5-5.1-6.0	0
	25-49	---	6.0-11.0-15.0	4.5-4.7-5.5	0
	49-69	---	12.0-18.0-28.0	4.5-5.0-5.5	0
	69-90	9.0-13.0-17.0	7.0-11.0-15.0	5.1-5.4-6.5	0
	90-99	---	---	5.1-5.4-6.5	---
Wellston	0-8	8.0-14.0-20.0	4.0-7.0-15.0	3.5-5.4-7.3	0
	8-26	7.0-13.0-18.0	5.0-10.0-15.0	3.5-4.8-6.0	0
	26-41	---	5.0-10.0-17.0	4.5-5.0-5.5	0
	41-54	---	5.0-7.0-15.0	4.5-5.0-5.5	0
	54-60	---	---	4.5-5.0-5.5	---
DeaC3:					
Deuchars	0-6	7.0-12.0-20.0	4.0-7.0-15.0	4.5-5.9-7.3	0
	6-10	6.0-9.0-15.0	4.0-7.0-12.0	4.5-5.1-6.5	0
	10-30	---	9.0-12.0-16.0	3.5-4.5-5.5	0
	30-55	28.0-32.0-41.0	25.0-29.0-38.0	3.5-4.7-6.0	0
	55-62	20.0-27.0-35.0	15.0-20.0-26.0	4.5-5.0-7.3	0
	62-80	---	---	4.5-5.1-7.3	---
Apalona	0-4	6.0-10.0-16.0	4.0-9.0-12.0	4.5-5.9-7.3	0
	4-19	11.0-13.0-16.0	8.0-10.0-13.0	4.5-5.1-6.0	0
	19-39	---	6.0-11.0-15.0	4.5-4.7-5.5	0
	39-71	---	12.0-18.0-28.0	4.5-5.0-5.5	0
	71-90	9.0-13.0-17.0	7.0-11.0-15.0	5.1-5.4-6.5	0
	90-99	---	---	5.1-5.4-6.5	---
Wellston	0-3	8.0-14.0-20.0	4.0-9.0-15.0	3.5-5.4-7.3	0
	3-22	7.0-13.0-18.0	5.0-10.0-15.0	3.5-4.8-6.0	0
	22-33	---	5.0-10.0-17.0	4.5-5.0-5.5	0
	33-50	---	5.0-7.0-15.0	4.5-5.0-5.5	0
	50-60	---	---	4.5-5.0-5.5	---
EbhD2:					
Ebal	0-7	8.0-11.0-20.0	4.0-6.0-9.0	4.5-5.9-7.3	0
	7-13	---	6.0-12.0-16.0	4.5-4.7-5.5	0
	13-21	---	7.0-12.0-27.0	3.5-4.9-5.5	0
	21-48	19.0-29.0-49.0	14.0-22.0-37.0	4.5-5.0-6.0	0
	48-80	24.0-33.0-38.0	20.0-29.0-34.0	4.5-5.2-7.3	0
	80-90	---	---	4.5-5.2-7.3	---
Gilpin	0-8	6.0-9.0-14.0	3.0-4.0-6.0	3.5-5.0-7.3	0
	8-22	---	5.0-7.0-13.0	3.5-5.1-5.5	0
	22-34	---	4.0-7.0-18.0	3.5-4.6-5.5	0
	34-40	---	---	3.5-4.6-5.5	---
Wellston	0-8	8.0-14.0-20.0	4.0-7.0-15.0	3.5-5.4-7.3	0
	8-26	7.0-13.0-18.0	5.0-10.0-15.0	3.5-4.8-6.0	0
	26-41	---	5.0-10.0-17.0	4.5-5.0-5.5	0
	41-54	---	5.0-7.0-15.0	4.5-5.0-5.5	0
	54-60	---	---	4.5-5.0-5.5	---
EbhD3:					
Ebal	0-3	8.0-11.0-20.0	4.0-6.0-9.0	4.5-5.9-7.3	0
	3-17	---	7.0-12.0-27.0	3.5-4.9-5.5	0
	17-44	19.0-29.0-49.0	14.0-22.0-37.0	4.5-5.0-6.0	0
	44-67	24.0-33.0-38.0	20.0-29.0-34.0	4.5-5.2-7.3	0
	67-80	---	---	4.5-5.2-7.3	---

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
EbhD3:					
Gilpin---------------	0-4	9.0-11.0-14.0	5.0-7.0-11.0	3.5-5.9-7.3	0
	4-22	---	5.0-7.0-13.0	3.5-5.1-5.5	0
	22-29	---	4.0-7.0-18.0	3.5-4.6-5.5	0
	29-40	---	---	3.5-4.6-5.5	---
Wellston-------------	0-3	8.0-14.0-20.0	4.0-9.0-15.0	3.5-5.4-7.3	0
	3-22	7.0-13.0-18.0	5.0-10.0-15.0	3.5-4.8-6.0	0
	22-33	---	5.0-10.0-17.0	4.5-5.0-5.5	0
	33-50	---	5.0-7.0-15.0	4.5-5.0-5.5	0
	50-60	---	---	4.5-5.0-5.5	---
EepA:					
Elkinsville----------	0-10	6.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	10-43	9.0-14.0-18.0	6.0-11.0-15.0	4.5-5.9-7.3	0
	43-53	---	10.0-13.0-16.0	4.5-5.0-5.5	0
	53-66	---	8.0-11.0-15.0	4.5-5.2-5.5	0
	66-80	8.0-12.0-15.0	6.0-10.0-12.0	4.5-5.6-6.0	0
EepB2:					
Elkinsville----------	0-10	6.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	10-43	9.0-14.0-18.0	6.0-11.0-15.0	4.5-5.9-7.3	0
	43-53	---	10.0-13.0-16.0	4.5-5.0-5.5	0
	53-66	---	8.0-11.0-15.0	4.5-5.2-5.5	0
	66-80	8.0-12.0-15.0	6.0-10.0-12.0	4.5-5.6-6.0	0
EepC2:					
Elkinsville----------	0-7	6.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	7-43	9.0-14.0-18.0	6.0-11.0-15.0	4.5-5.9-7.3	0
	43-53	---	10.0-13.0-16.0	4.5-5.0-5.5	0
	53-66	---	8.0-11.0-15.0	4.5-5.2-5.5	0
	66-80	8.0-12.0-15.0	6.0-10.0-12.0	4.5-5.6-6.0	0
EepGQ:					
Elkinsville----------	0-6	6.0-10.0-15.0	4.0-7.0-12.0	4.5-5.1-6.0	0
	6-36	---	6.0-11.0-15.0	4.5-5.1-5.5	0
	36-75	---	10.0-12.0-16.0	4.5-5.0-5.5	0
	75-80	8.0-12.0-15.0	6.0-10.0-12.0	4.5-5.0-6.0	0
EesA:					
Elkinsville----------	0-8	8.0-12.0-20.0	5.0-8.0-11.0	4.5-5.9-7.3	0
	8-38	8.0-12.0-16.0	6.0-9.0-12.0	4.5-4.7-7.3	0
	38-75	---	4.0-7.0-12.0	4.5-4.7-5.5	0
	75-80	8.0-11.0-15.0	6.0-9.0-12.0	4.5-4.7-6.0	0
Millstone------------	0-12	4.0-7.0-12.0	3.0-4.0-8.0	4.5-5.9-7.3	0
	12-59	5.0-8.0-12.0	4.0-7.0-10.0	4.5-4.7-6.0	0
	59-80	5.0-6.0-12.0	4.0-5.0-10.0	4.5-4.6-6.0	0
EesB:					
Elkinsville----------	0-8	8.0-12.0-20.0	5.0-8.0-11.0	4.5-5.9-7.3	0
	8-32	8.0-12.0-16.0	6.0-9.0-12.0	4.5-4.7-7.3	0
	32-73	---	4.0-7.0-12.0	4.5-4.7-5.5	0
	73-80	8.0-11.0-14.0	6.0-9.0-12.0	4.5-4.7-6.0	0
Millstone------------	0-10	4.0-7.0-12.0	3.0-4.0-8.0	4.5-5.9-7.3	0
	10-62	5.0-8.0-12.0	4.0-7.0-10.0	4.5-4.7-6.0	0
	62-80	5.0-6.0-12.0	4.0-5.0-10.0	4.5-4.6-6.0	0

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
EesC2:					
Elkinsville----------	0-7	8.0-12.0-20.0	5.0-8.0-11.0	4.5-5.9-7.3	0
	7-30	8.0-12.0-16.0	6.0-9.0-12.0	4.5-4.7-7.3	0
	30-56	---	4.0-7.0-12.0	4.5-4.7-5.5	0
	56-80	8.0-11.0-14.0	6.0-9.0-12.0	4.5-4.7-6.0	0
Millstone------------	0-8	5.0-8.0-12.0	3.0-4.0-8.0	4.5-5.9-7.3	0
	8-58	5.0-8.0-12.0	4.0-7.0-10.0	4.5-4.7-6.0	0
	58-80	5.0-6.0-12.0	4.0-5.0-10.0	4.5-4.6-6.0	0
EesFQ:					
Elkinsville----------	0-5	8.0-12.0-20.0	5.0-8.0-11.0	4.5-5.4-7.3	0
	5-24	8.0-12.0-16.0	6.0-9.0-12.0	4.5-4.7-7.3	0
	24-50	---	4.0-7.0-12.0	4.5-4.7-5.5	0
	50-80	8.0-11.0-14.0	6.0-9.0-12.0	4.5-4.7-6.0	0
Millstone------------	0-6	4.0-7.0-12.0	3.0-4.0-8.0	4.5-5.4-6.0	0
	6-54	5.0-8.0-12.0	4.0-7.0-10.0	4.5-4.7-6.0	0
	54-80	5.0-6.0-12.0	4.0-5.0-10.0	4.5-4.6-6.0	0
GacAW:					
Gatchel--------------	0-4	7.0-12.0-16.0	---	5.6-6.1-7.3	0
	4-18	6.0-9.0-12.0	---	5.6-6.2-7.3	0
	18-60	6.0-8.0-12.0	---	5.6-6.4-7.3	0
GbgB2:					
Gatton---------------	0-9	8.0-13.0-18.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	9-24	---	7.0-10.0-12.0	4.5-5.2-5.5	0
	24-66	---	7.0-10.0-13.0	4.5-5.2-5.5	0
	66-80	---	12.0-17.0-22.0	4.5-5.2-5.5	0
GbgC2:					
Gatton---------------	0-9	8.0-13.0-18.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	9-24	---	7.0-10.0-12.0	4.5-5.2-5.5	0
	24-66	---	7.0-10.0-13.0	4.5-5.2-5.5	0
	66-80	---	12.0-17.0-22.0	4.5-5.2-5.5	0
GbgC3:					
Gatton---------------	0-6	8.0-13.0-18.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	6-24	---	7.0-10.0-12.0	4.5-5.2-5.5	0
	24-66	---	7.0-10.0-13.0	4.5-5.2-5.5	0
	66-80	---	12.0-17.0-22.0	4.5-5.2-5.5	0
GfcF:					
Gilpin---------------	0-5	---	3.0-4.0-6.0	3.5-5.0-5.5	0
	5-8	---	6.0-12.0-16.0	3.5-4.7-5.5	0
	8-22	---	5.0-7.0-13.0	3.5-5.1-5.5	0
	22-34	---	4.0-7.0-18.0	3.5-4.6-5.5	0
	34-40	---	---	3.5-4.6-5.5	---
Tipsaw---------------	0-2	---	4.0-5.0-7.0	3.5-4.2-5.5	0
	2-5	---	2.0-3.0-7.0	3.5-4.3-5.5	0
	5-20	---	1.0-2.0-6.0	3.5-4.5-5.5	0
	20-28	---	2.0-3.0-6.0	3.5-4.4-5.5	0
	28-60	---	---	3.5-4.4-5.5	---

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
GfcF:					
Ebal	0-5	---	4.0-6.0-9.0	4.5-5.0-5.5	0
	5-9	---	6.0-12.0-16.0	4.5-4.7-5.5	0
	9-20	---	7.0-12.0-27.0	3.5-4.9-5.5	0
	20-48	19.0-29.0-49.0	14.0-22.0-37.0	4.5-5.0-6.0	0
	48-67	24.0-33.0-38.0	20.0-29.0-34.0	4.5-5.2-7.3	0
	67-80	---	---	4.5-5.2-7.3	---
GgbG:					
Gilwood	0-6	5.0-9.0-15.0	4.0-8.0-12.0	4.5-5.5-6.5	0
	6-11	---	6.0-8.0-10.0	4.5-5.0-5.5	0
	11-22	---	6.0-8.0-10.0	3.5-4.6-5.0	0
	22-32	---	6.0-8.0-10.0	3.5-4.6-5.0	0
	32-60	---	---	---	---
Brownstown	0-6	5.0-6.0-10.0	3.0-4.0-6.0	3.5-4.5-6.5	0
	6-18	---	2.0-4.0-6.0	3.5-4.5-5.5	0
	18-36	---	2.0-4.0-6.0	3.5-4.6-5.5	0
	36-60	---	---	---	---
GmaG:					
Gnawbone	0-7	---	4.0-8.0-12.0	3.5-4.3-5.0	0
	7-27	---	6.0-8.0-11.0	3.5-4.5-5.0	0
	27-39	---	6.0-8.0-10.0	3.5-4.5-5.0	0
	39-60	---	---	3.5-4.5-5.0	---
Kurtz	0-6	---	4.0-7.0-10.0	3.5-4.3-5.0	0
	6-36	---	8.0-9.0-12.0	3.5-4.5-5.0	0
	36-47	---	8.0-9.0-12.0	4.5-5.0-5.5	0
	47-60	---	---	4.5-5.0-5.5	---
HcaA:					
Hatfield	0-7	8.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	7-20	8.0-11.0-16.0	5.0-7.0-11.0	4.5-5.3-6.0	0
	20-36	---	8.0-12.0-15.0	4.5-4.9-5.5	0
	36-78	12.0-17.0-20.0	8.0-11.0-15.0	4.5-5.5-6.5	0
	78-83	10.0-15.0-20.0	7.0-12.0-15.0	5.1-6.9-7.8	0
HcgAH:					
Haymond	0-10	4.0-8.0-16.0	---	5.6-6.1-7.3	0
	10-44	4.0-9.0-16.0	---	5.6-6.1-7.3	0
	44-60	3.0-9.0-16.0	---	6.1-6.3-7.8	0
HcgAW:					
Haymond	0-9	4.0-10.0-15.0	---	5.6-6.4-7.3	0
	9-44	10.0-13.0-16.0	---	5.6-6.4-7.3	0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.8	0
HcpAP:					
Haymond	0-10	4.0-10.0-15.0	---	5.6-6.2-7.3	0
	10-44	10.0-13.0-16.0	---	5.6-6.2-7.3	0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.8	0
HufAH:					
Huntington	0-12	15.0-22.0-30.0	---	5.6-6.7-7.3	0
	12-70	10.0-14.0-20.0	---	5.6-6.7-7.8	0
	70-80	7.0-12.0-18.0	---	5.6-5.8-7.8	0

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
HufAK:					
Huntington	0-12	15.0-22.0-30.0	---	5.6-6.7-7.3	0
	12-42	7.0-13.0-18.0	---	5.6-6.7-7.8	0
	42-80	5.0-12.0-17.0	---	5.6-6.7-7.8	0
JoaA:					
Johnsburg	0-10	7.0-11.0-20.0	4.0-7.0-10.0	4.5-5.9-7.3	0
	10-36	---	7.0-10.0-14.0	3.5-4.6-5.5	0
	36-72	---	5.0-10.0-15.0	3.5-4.6-5.5	0
	72-90	---	4.0-8.0-12.0	3.5-5.1-5.5	0
	90-99	---	---	3.5-5.1-5.5	---
KunAW:					
Kintner	0-5	6.0-8.0-15.0	---	5.6-7.4-7.8	0-1-1
	5-23	7.0-8.0-11.0	---	5.6-7.4-7.8	0-1-5
	23-48	3.0-5.0-8.0	---	5.6-7.4-7.8	0-1-5
	48-60	---	---	---	---
KxkC2:					
Knobcreek	0-7	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	7-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Navilleton	0-8	8.0-15.0-20.0	4.0-8.0-12.0	4.5-6.2-7.3	0
	8-35	9.0-14.0-23.0	7.0-12.0-20.0	4.5-5.3-7.3	0
	35-43	---	18.0-33.0-45.0	4.5-5.0-5.5	0
	43-72	20.0-32.0-40.0	---	5.6-7.0-7.8	0
	72-82	---	---	---	---
KxlC3:					
Knobcreek	0-6	10.0-16.0-24.0	5.0-11.0-17.0	4.5-5.9-7.3	0
	6-13	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	13-60	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	60-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Haggatt	0-5	10.0-14.0-22.0	5.0-9.0-13.0	4.5-5.9-7.3	0
	5-11	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	11-42	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	42-60	---	---	---	---
Caneyville	0-5	10.0-14.0-22.0	5.0-9.0-13.0	5.1-5.9-7.3	0
	5-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-40	---	---	---	---
KxlE3:					
Knobcreek	0-6	10.0-16.0-24.0	5.0-11.0-17.0	4.5-5.9-7.3	0
	6-13	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	13-60	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	60-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Haggatt	0-5	10.0-14.0-22.0	5.0-9.0-13.0	4.5-5.9-7.3	0
	5-11	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	11-42	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	42-60	---	---	---	---

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
KxlE3:					
Caneyville-----------	0-6	10.0-14.0-22.0	5.0-9.0-13.0	5.1-5.9-7.3	0
	6-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---
KxmE2:					
Knobcreek------------	0-7	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	7-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Haggatt--------------	0-6	8.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	6-16	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	16-44	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	44-60	---	---	---	---
Caneyville-----------	0-6	8.0-13.0-20.0	5.0-7.0-12.0	5.1-5.9-7.3	0
	6-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---
KxoC2:					
Knobcreek------------	0-7	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	7-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Navilleton-----------	0-8	8.0-15.0-20.0	4.0-8.0-12.0	4.5-6.2-7.3	0
	8-35	9.0-14.0-20.0	7.0-12.0-20.0	4.5-5.3-7.3	0
	35-43	---	18.0-33.0-45.0	4.5-5.0-5.5	0
	43-72	20.0-32.0-40.0	18.0-30.0-38.0	5.6-7.0-7.8	0
	72-82	---	---	---	---
Haggatt--------------	0-6	8.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	6-16	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	16-44	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	44-60	---	---	---	---
KxpD2:					
Knobcreek------------	0-7	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	7-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Haggatt--------------	0-6	8.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	6-16	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	16-44	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	44-60	---	---	---	---
Caneyville-----------	0-6	8.0-13.0-20.0	5.0-7.0-12.0	5.1-5.9-7.3	0
	6-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---
KxrC3:					
Knobcreek------------	0-5	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	5-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
KxrC3:					
Navilleton-----------	0-5	8.0-15.0-20.0	4.0-8.0-12.0	4.5-6.2-7.3	0
	5-35	9.0-14.0-20.0	7.0-12.0-20.0	4.5-5.3-7.3	0
	35-43	---	18.0-33.0-45.0	4.5-5.0-5.5	0
	43-72	20.0-32.0-40.0	18.0-30.0-38.0	5.6-7.0-7.8	0
	72-82	---	---	---	---
Haggatt--------------	0-5	8.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	5-16	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	16-44	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	44-60	---	---	---	---
KxsD3:					
Knobcreek------------	0-5	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	5-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Haggatt--------------	0-5	8.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	5-16	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	16-44	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	44-60	---	---	---	---
Caneyville-----------	0-5	10.0-14.0-22.0	5.0-9.0-13.0	5.1-5.9-7.3	0
	5-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---
KxtC2:					
Knobcreek------------	0-7	10.0-14.0-22.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	7-18	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	18-63	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	63-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Haggatt--------------	0-6	8.0-12.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	6-16	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	16-44	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	44-60	---	---	---	---
Caneyville-----------	0-6	8.0-13.0-20.0	5.0-7.0-12.0	4.5-5.9-7.3	0
	6-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-40	---	---	---	---
KxtC3:					
Knobcreek------------	0-6	10.0-16.0-24.0	5.0-11.0-17.0	4.5-5.9-7.3	0
	6-13	11.0-16.0-24.0	8.0-15.0-20.0	4.5-4.8-7.3	0
	13-60	---	20.0-28.0-38.0	4.5-5.0-5.5	0
	60-80	14.0-18.0-24.0	---	5.6-6.6-7.3	0
Haggatt--------------	0-5	10.0-14.0-22.0	5.0-9.0-13.0	5.1-5.9-7.3	0
	5-11	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	11-42	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	42-60	---	---	---	---
Caneyville-----------	0-5	10.0-14.0-22.0	5.0-9.0-13.0	5.1-5.9-7.3	0
	5-10	10.0-15.0-20.0	7.0-11.0-15.0	4.5-5.6-7.3	0
	10-36	21.0-29.0-37.0	18.0-26.0-35.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
LaaA:					
Laconia	0-7	8.0-11.0-22.0	5.0-8.0-17.0	4.5-5.9-7.3	0
	7-13	8.0-11.0-22.0	5.0-8.0-17.0	4.5-5.9-7.3	0
	13-38	9.0-14.0-16.0	6.0-11.0-12.0	4.5-5.2-6.5	0
	38-80	12.0-16.0-25.0	9.0-15.0-25.0	4.5-6.6-7.8	0
LpoAK:					
Lindside	0-10	10.0-16.0-24.0	---	5.6-6.1-7.3	0
	10-42	10.0-14.0-22.0	---	5.6-6.0-7.3	0
	42-80	10.0-12.0-22.0	---	5.6-6.5-7.3	0
LpoAQ:					
Lindside	0-10	8.0-13.0-20.0	5.0-10.0-15.0	4.5-5.9-7.3	0
	10-41	6.0-9.0-17.0	5.0-7.0-15.0	4.5-5.0-6.5	0
	41-60	---	5.0-8.0-15.0	4.5-5.0-5.5	0
McnGQ:					
Markland	0-4	14.0-20.0-24.0	12.0-15.0-18.0	5.1-6.1-7.3	0
	4-28	14.0-19.0-24.0	9.0-14.0-16.0	4.5-5.9-7.8	0-0-5
	28-59	12.0-17.0-20.0	---	7.4-7.9-8.4	5-15-25
	59-80	8.0-13.0-16.0	---	7.4-8.1-8.4	20-30-45
MdlD2:					
Markland	0-6	14.0-18.0-22.0	12.0-15.0-18.0	5.1-6.1-7.3	0
	6-25	14.0-19.0-24.0	9.0-14.0-16.0	4.5-5.9-7.8	0-0-5
	25-42	12.0-17.0-20.0	---	7.4-7.9-8.4	5-15-25
	42-80	8.0-13.0-16.0	---	7.4-8.1-8.4	20-30-45
MdwD3:					
Markland	0-4	15.0-20.0-28.0	12.0-15.0-18.0	5.1-6.1-7.3	0
	4-18	14.0-20.0-24.0	9.0-15.0-16.0	4.5-5.9-7.8	0-0-5
	18-40	12.0-16.0-20.0	---	7.4-7.9-8.4	5-15-25
	40-80	8.0-12.0-16.0	---	7.4-8.1-8.4	20-28-45
MhuA:					
McGary	0-11	8.0-12.0-20.0	---	5.6-6.6-7.3	0
	11-42	12.0-20.0-24.0	10.0-16.0-20.0	4.5-6.6-7.8	0-0-15
	42-50	16.0-19.0-24.0	---	7.4-7.9-8.4	5-15-30
	50-60	10.0-15.0-18.0	---	7.4-8.0-8.4	10-30-40
NbhAK:					
Newark	0-7	10.0-16.0-22.0	---	5.6-6.5-7.3	0
	7-66	10.0-15.0-20.0	---	5.6-6.6-7.3	0
	66-80	8.0-14.0-22.0	---	5.6-6.6-7.8	0
NbhAQ:					
Newark	0-10	10.0-16.0-22.0	---	5.6-6.2-7.3	0
	10-25	13.0-16.0-18.0	9.0-12.0-15.0	4.5-6.0-7.3	0
	25-80	12.0-16.0-20.0	8.0-12.0-16.0	4.5-6.5-7.3	0
NprAQ:					
Nolin	0-10	10.0-16.0-25.0	5.0-10.0-15.0	4.5-5.9-7.3	0
	10-47	6.0-10.0-17.0	5.0-9.0-15.0	4.5-5.0-6.5	0
	47-60	---	4.0-8.0-15.0	4.5-5.0-5.5	0
Omz.					
Orthents					

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
PcrA:					
Pekin----------------	0-8	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	8-29	8.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0
	29-58	---	8.0-12.0-16.0	3.5-4.3-5.5	0
	58-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0
PcrB2:					
Pekin----------------	0-9	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	9-24	7.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0
	24-45	---	8.0-12.0-16.0	3.5-4.3-5.5	0
	45-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0
PhwB2:					
Percell--------------	0-8	8.0-10.0-18.0	4.0-7.0-11.0	4.5-5.9-7.3	0
	8-49	8.0-13.0-17.0	6.0-9.0-14.0	4.5-5.6-7.3	0
	49-70	14.0-18.0-22.0	---	5.6-6.5-7.3	0
	70-80	10.0-13.0-17.0	---	7.4-8.0-8.4	5-18-30
Pml.					
Pits, quarry					
Ppu.					
Pits, sand and gravel					
RmcE:					
Riney----------------	0-8	9.0-14.0-20.0	5.0-6.0-10.0	5.1-5.2-7.3	0
	8-45	---	5.0-6.0-8.0	4.5-4.7-5.5	0
	45-76	---	6.0-9.0-14.0	4.5-4.7-5.5	0
	76-80	3.0-6.0-11.0	2.0-5.0-9.0	4.5-5.4-6.0	0
ScbA:					
Sciotoville----------	0-9	6.0-12.0-20.0	3.0-6.0-10.0	5.1-5.9-7.3	0
	9-27	---	4.0-8.0-12.0	4.5-4.8-5.5	0
	27-50	---	6.0-9.0-14.0	4.5-4.8-5.5	0
	50-80	8.0-11.0-15.0	5.0-8.0-12.0	4.5-5.1-6.5	0
ScbB2:					
Sciotoville----------	0-9	6.0-12.0-20.0	3.0-6.0-10.0	5.1-5.9-7.3	0
	9-27	---	4.0-7.0-12.0	4.5-4.8-5.5	0
	27-50	---	6.0-9.0-14.0	4.5-4.8-5.5	0
	50-80	8.0-11.0-15.0	5.0-8.0-12.0	4.5-5.1-6.5	0
SfyB:					
Shircliff------------	0-8	9.0-12.0-20.0	4.0-7.0-12.0	5.1-5.9-7.3	0
	8-19	10.0-13.0-17.0	6.0-9.0-14.0	4.5-5.0-6.0	0
	19-43	16.0-20.0-24.0	12.0-16.0-20.0	4.5-5.5-7.8	0-0-5
	43-80	10.0-14.0-18.0	---	7.8-8.1-8.4	10-25-45
Uaa.					
Udorthents					
UekAQ:					
Urban land.					
Elkinsville----------	0-10	6.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	10-43	8.0-12.0-16.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	43-53	---	10.0-13.0-16.0	4.5-5.0-5.5	0
	53-66	---	8.0-11.0-15.0	4.5-5.2-5.5	0
	66-80	8.0-12.0-15.0	6.0-10.0-12.0	4.5-5.6-6.0	0

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
UekAQ:					
Haymond--------------	0-10	4.0-10.0-15.0	---	5.6-6.4-7.3	0
	10-44	10.0-13.0-16.0	---	5.6-6.4-7.3	0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.8	0
UflC:					
Urban land.					
Crider---------------	0-7	8.0-11.0-18.0	5.0-8.0-15.0	4.5-5.9-7.3	0
	7-43	12.0-15.0-18.0	9.0-12.0-15.0	4.5-5.3-7.3	0
	43-80	15.0-30.0-38.0	14.0-28.0-36.0	4.5-5.9-6.0	0
	80-82	---	---	---	---
Vertrees-------------	0-8	8.0-11.0-18.0	5.0-8.0-15.0	4.5-5.9-7.3	0
	8-20	15.0-23.0-30.0	11.0-18.0-23.0	4.5-6.6-7.3	0
	20-46	15.0-23.0-30.0	11.0-18.0-23.0	4.5-5.0-6.0	0
	46-80	15.0-23.0-30.0	11.0-18.0-23.0	4.5-6.6-7.3	0
UnsB:					
Urban land.					
Udarents-------------	0-3	10.0-14.0-22.0	8.0-11.0-17.0	4.5-5.9-7.3	0
	3-13	---	14.0-18.0-22.0	4.5-5.0-5.5	0
	13-60	---	20.0-26.0-32.0	4.5-5.0-5.5	0
Usl.					
Udorthents					
VcaC3:					
Vertrees-------------	0-4	5.0-7.0-10.0	4.0-5.0-8.0	4.5-5.5-6.5	0
	4-20	15.0-23.0-30.0	11.0-18.0-23.0	4.5-6.6-7.3	0
	20-46	15.0-23.0-30.0	11.0-18.0-23.0	4.5-5.0-6.0	0
	46-80	15.0-23.0-30.0	11.0-18.0-23.0	4.5-6.6-7.3	0
Crider---------------	0-7	8.0-14.0-20.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	7-30	12.0-15.0-18.0	9.0-12.0-15.0	4.5-5.3-7.3	0
	30-80	15.0-30.0-38.0	14.0-28.0-36.0	4.5-5.9-6.0	0
	80-82	---	---	---	---
Caneyville-----------	0-5	10.0-14.0-20.0	5.0-9.0-15.0	5.1-5.9-7.3	0
	5-10	15.0-27.0-32.0	11.0-18.0-23.0	4.5-5.6-7.3	0
	10-36	11.0-13.0-20.0	8.0-10.0-15.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---
VcbD2:					
Vertrees-------------	0-8	8.0-11.0-18.0	5.0-8.0-15.0	4.5-5.9-7.3	0
	8-20	15.0-23.0-30.0	11.0-18.0-23.0	4.5-6.6-7.3	0
	20-46	15.0-23.0-30.0	11.0-18.0-23.0	4.5-5.0-6.0	0
	46-80	15.0-23.0-30.0	11.0-18.0-23.0	4.5-6.6-7.3	0
Crider---------------	0-7	8.0-11.0-18.0	5.0-8.0-15.0	4.5-5.9-7.3	0
	7-43	12.0-15.0-18.0	9.0-12.0-15.0	4.5-5.3-7.3	0
	43-80	15.0-30.0-38.0	14.0-28.0-36.0	4.5-5.9-6.0	0
	80-82	---	---	---	---
Caneyville-----------	0-6	8.0-13.0-20.0	5.0-7.0-12.0	4.5-5.9-7.3	0
	6-10	15.0-27.0-32.0	11.0-18.0-23.0	4.5-5.6-7.3	0
	10-36	12.0-15.0-22.0	9.0-11.0-17.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---

Table 19.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
VccD3:					
Vertrees	0-4	5.0-7.0-10.0	4.0-5.0-8.0	4.5-5.5-6.5	0
	4-20	12.0-23.0-28.0	15.0-28.0-34.0	4.5-6.6-7.3	0
	20-46	15.0-23.0-30.0	11.0-18.0-23.0	4.5-5.0-6.0	0
	46-80	13.0-23.0-28.0	15.0-28.0-34.0	4.5-6.6-7.3	0
Haggatt	0-5	10.0-14.0-22.0	5.0-9.0-13.0	5.1-5.9-7.3	0
	5-11	12.0-15.0-20.0	9.0-12.0-17.0	4.5-5.4-7.3	0
	11-42	17.0-28.0-48.0	17.0-28.0-45.0	4.5-5.1-7.3	0
	42-60	---	---	---	---
Caneyville	0-5	10.0-14.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	5-10	15.0-27.0-32.0	11.0-18.0-23.0	4.5-5.6-7.3	0
	10-36	12.0-15.0-22.0	9.0-11.0-17.0	5.1-5.4-7.8	0-0-5
	36-60	---	---	---	---
W.					
Water					
WbkAP:					
Wilbur	0-8	4.0-8.0-12.0	---	5.6-6.5-7.3	0
	8-32	4.0-11.0-12.0	---	5.6-6.5-7.3	0
	32-60	4.0-8.0-12.0	---	5.6-6.5-7.3	0
Newark	0-8	10.0-16.0-22.0	---	5.6-6.5-7.3	0
	8-66	10.0-15.0-20.0	---	5.6-6.6-7.3	0
	66-80	8.0-14.0-22.0	---	5.6-6.6-7.8	0
WycAQ:					
Woodmere	0-10	7.0-9.0-15.0	5.0-7.0-11.0	5.1-5.1-7.3	0
	10-30	13.0-17.0-18.0	10.0-13.0-14.0	5.1-5.5-7.3	0
	30-42	13.0-15.0-29.0	10.0-11.0-22.0	4.5-4.9-6.0	0
	42-80	13.0-16.0-29.0	10.0-12.0-22.0	4.5-4.9-6.0	0

Table 20.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydrologic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
AeoB2:										
Alford	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
AeoC2:										
Alford	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
AgzB:										
Apalona	C	Medium								
			January	2.0-3.0	2.5-3.5	---	---	None	---	None
			February	2.0-3.0	2.5-3.5	---	---	None	---	None
			March	2.0-3.0	2.5-3.5	---	---	None	---	None
			April	2.0-3.0	2.5-3.5	---	---	None	---	None
			May	2.5-3.0	3.0-3.5	---	---	None	---	None
			November	2.5-3.0	3.0-3.5	---	---	None	---	None
			December	2.0-3.0	2.5-3.5	---	---	None	---	None
Zanesville	C	Medium								
			January	2.0-3.0	2.5-3.5	---	---	None	---	None
			February	2.0-3.0	2.5-3.5	---	---	None	---	None
			March	2.0-3.0	2.5-3.5	---	---	None	---	None
			April	2.0-3.0	2.5-3.5	---	---	None	---	None
			May	2.5-3.0	3.0-3.5	---	---	None	---	None
			November	2.5-3.0	3.0-3.5	---	---	None	---	None
			December	2.0-3.0	2.5-3.5	---	---	None	---	None
BbhA:										
Bartle	B	Low								
			January	0.5-2.0	2.0-3.5	---	---	None	---	None
			February	0.5-2.0	2.0-3.5	---	---	None	---	None
			March	0.5-2.0	2.0-3.5	---	---	None	---	None
			April	0.5-2.0	2.0-3.5	---	---	None	---	None
			May	1.0-3.5	5.0-6.7	---	---	None	---	None
			June	2.0-3.5	5.0-6.7	---	---	None	---	None
			July	3.5-6.0	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			November	1.0-3.0	2.5-3.5	---	---	None	---	None
			December	0.5-2.0	2.0-3.5	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BcrAW:										
Beanblossom	B	Low								
			January	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			February	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			March	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			April	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			May	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			June	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			July	4.0-5.0	4.5-5.0	---	---	None	Very brief	Rare
			August	4.0-5.0	4.5-5.0	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	3.3-5.0	4.0-5.0	---	---	None	Very brief	Rare
			December	3.3-5.0	4.0-5.0	---	---	None	Very brief	Rare
BdoA:										
Bedford	C	Medium								
			January	1.5-2.5	2.0-3.0	---	---	None	---	None
			February	1.5-2.5	2.0-3.0	---	---	None	---	None
			March	1.5-2.5	2.0-3.0	---	---	None	---	None
			April	1.5-2.5	2.0-3.0	---	---	None	---	None
			May	2.0-2.5	2.5-3.0	---	---	None	---	None
			November	2.0-2.5	2.5-3.0	---	---	None	---	None
			December	1.5-2.5	2.0-3.0	---	---	None	---	None
BdoB:										
Bedford	C	Medium								
			January	1.5-2.5	2.0-3.0	---	---	None	---	None
			February	1.5-2.5	2.0-3.0	---	---	None	---	None
			March	1.5-2.5	2.0-3.0	---	---	None	---	None
			April	1.5-2.5	2.0-3.0	---	---	None	---	None
			May	2.0-2.5	2.5-3.0	---	---	None	---	None
			November	2.0-2.5	2.5-3.0	---	---	None	---	None
			December	1.5-2.5	2.0-3.0	---	---	None	---	None
BkeC2:										
Bloomfield	A	Very low								
			Jan-Dec	---	---	---	---	None	---	None
Alvin	A	Low								
			Jan-Dec	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
BuoA:										
Bromer	B	Medium								
			January	0.5-2.0	2.0-3.5	---	---	None	---	None
			February	0.5-2.0	2.0-3.5	---	---	None	---	None
			March	0.5-2.0	2.0-3.5	---	---	None	---	None
			April	0.5-2.0	2.0-3.5	---	---	None	---	None
			May	1.0-3.5	5.0-6.7	---	---	None	---	None
			June	2.0-3.5	5.0-6.7	---	---	None	---	None
			July	3.5-6.0	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			November	1.0-3.0	2.5-3.5	---	---	None	---	None
			December	0.5-2.0	2.0-3.5	---	---	None	---	None
BvsG:										
Brussels	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										
CbrD2:										
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Knobcreek	C	High								
			Jan-Dec	---	---	---	---	None	---	None
CbsD3:										
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Knobcreek	C	High								
			Jan-Dec	---	---	---	---	None	---	None
CbxD4:										
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
CcaG:										
Caneyville----------------	C	Very high								
			Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.										
CtaB:										
Crider--------------------	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
CteC2:										
Crider--------------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Vertrees------------------	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
CtwB:										
Crider--------------------	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
Bedford-------------------	C	Medium								
			January	1.5-2.5	1.7-3.1	---	---	None	---	None
			February	1.5-2.5	1.7-3.1	---	---	None	---	None
			March	1.5-2.5	1.7-3.1	---	---	None	---	None
			April	1.5-2.5	2.0-3.1	---	---	None	---	None
			May	2.0-2.5	2.5-3.1	---	---	None	---	None
			November	2.0-2.5	2.5-3.1	---	---	None	---	None
			December	1.5-2.5	2.0-3.1	---	---	None	---	None
Navilleton----------------	C	Medium								
			Jan-Dec	---	---	---	---	None	---	None
DeaC2:										
Deuchars------------------	C	High								
			January	2.0-3.0	3.0-5.0	---	---	None	---	None
			February	2.0-3.0	3.0-5.0	---	---	None	---	None
			March	2.0-3.0	3.0-5.0	---	---	None	---	None
			April	2.0-3.0	3.0-5.0	---	---	None	---	None
			May	2.5-4.0	4.0-5.0	---	---	None	---	None
			June	2.5-4.0	4.0-5.0	---	---	None	---	None
			November	2.5-4.0	4.0-5.0	---	---	None	---	None
			December	2.0-3.0	3.0-5.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
DeaC2:										
Apalona	C	High								
			January	2.0-3.0	2.5-3.5	---	---	None	---	None
			February	2.0-3.0	2.5-3.5	---	---	None	---	None
			March	2.0-3.0	2.5-3.5	---	---	None	---	None
			April	2.0-3.0	2.5-3.5	---	---	None	---	None
			May	2.5-3.0	3.0-3.5	---	---	None	---	None
			November	2.5-3.0	3.0-3.5	---	---	None	---	None
			December	2.0-3.0	2.5-3.5	---	---	None	---	None
Wellston	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
DeaC3:										
Deuchars	C	High								
			January	2.0-3.0	3.0-5.0	---	---	None	---	None
			February	2.0-3.0	3.0-5.0	---	---	None	---	None
			March	2.0-3.0	3.0-5.0	---	---	None	---	None
			April	2.0-3.0	3.0-5.0	---	---	None	---	None
			May	2.5-4.0	4.0-5.0	---	---	None	---	None
			June	2.5-4.0	4.0-5.0	---	---	None	---	None
			November	2.5-4.0	4.0-5.0	---	---	None	---	None
			December	2.0-3.0	3.0-5.0	---	---	None	---	None
Apalona	D	Very high								
			January	1.5-2.5	2.0-3.0	---	---	None	---	None
			February	1.5-2.5	2.0-3.0	---	---	None	---	None
			March	1.5-2.5	2.0-3.0	---	---	None	---	None
			April	1.5-2.5	2.0-3.0	---	---	None	---	None
			May	2.0-2.5	2.5-3.0	---	---	None	---	None
			November	2.0-2.5	2.5-3.0	---	---	None	---	None
			December	1.5-2.5	2.0-3.0	---	---	None	---	None
Wellston	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
EbhD2:										
Ebal	C	High								
			January	2.0-3.0	2.5-6.0	---	---	None	---	None
			February	2.0-3.0	2.5-6.0	---	---	None	---	None
			March	2.0-3.0	2.5-6.0	---	---	None	---	None
			April	2.0-3.0	2.5-6.0	---	---	None	---	None
			May	3.0-4.0	4.0-6.0	---	---	None	---	None
			November	3.0-4.0	4.0-6.0	---	---	None	---	None
			December	2.0-3.0	2.5-6.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro- logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
EbhD2:										
Gilpin-------------------	C	High								
Wellston-----------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
EbhD3:										
Ebal---------------------	D	Very high								
			January	2.0-3.0	2.5-6.0	---	---	None	---	None
			February	2.0-3.0	2.5-6.0	---	---	None	---	None
			March	2.0-3.0	2.5-6.0	---	---	None	---	None
			April	2.0-3.0	2.5-6.0	---	---	None	---	None
			May	3.0-4.0	4.0-6.0	---	---	None	---	None
			November	3.0-4.0	4.0-6.0	---	---	None	---	None
			December	2.0-3.0	2.5-6.0	---	---	None	---	None
Gilpin-------------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Wellston-----------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
EepA:										
Elkinsville--------------	B	Very low								
			Jan-Dec	---	---	---	---	None	---	None
EepB2:										
Elkinsville--------------	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
EepC2:										
Elkinsville--------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
EepGQ:										
Elkinsville--------------	B	High								
			January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Very rare
			August	---	---	---	---	None	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	Brief	Very rare
			November	---	---	---	---	None	Brief	Very rare
			December	---	---	---	---	None	Brief	Very rare

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
EesA:										
Elkinsville	B	Very low								
			Jan-Dec	---	---	---	---	None	---	None
Millstone	B	Very low								
			Jan-Dec	---	---	---	---	None	---	None
EesB:										
Elkinsville	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
Millstone	B	Low								
			Jan-Dec	---	---	---	---	None	---	None
EesC2:										
Elkinsville	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Millstone	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
EesFQ:										
Elkinsville	B	High								
			January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Very rare
			August	---	---	---	---	None	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	Brief	Very rare
			November	---	---	---	---	None	Brief	Very rare
			December	---	---	---	---	None	Brief	Very rare

Table 20.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
EesFQ:										
Millstone	B	High								
			January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Very rare
			August	---	---	---	---	None	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	Brief	Very rare
			November	---	---	---	---	None	Brief	Very rare
			December	---	---	---	---	None	Brief	Very rare
GacAW:										
Gatchel	A	Very low								
			January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
GbgB2:										
Gatton	C	Medium								
			January	1.5-3.0	1.7-3.5	---	---	None	---	None
			February	1.5-3.0	1.7-3.5	---	---	None	---	None
			March	1.5-3.0	1.7-3.5	---	---	None	---	None
			April	1.5-3.0	1.7-3.5	---	---	None	---	None
			May	2.0-3.1	2.5-4.0	---	---	None	---	None
			November	2.5-3.0	3.0-3.5	---	---	None	---	None
			December	1.5-2.5	1.7-3.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
GbgC2:										
Gatton	C	High								
			January	1.5-3.0	1.7-3.5	---	---	None	---	None
			February	1.5-3.0	1.7-3.5	---	---	None	---	None
			March	1.5-3.0	1.7-3.5	---	---	None	---	None
			April	1.5-3.0	1.7-3.5	---	---	None	---	None
			May	2.0-3.1	2.5-4.0	---	---	None	---	None
			November	2.5-3.0	3.0-3.5	---	---	None	---	None
			December	1.5-2.5	1.7-3.0	---	---	None	---	None
GbgC3:										
Gatton	C	Very high								
			January	1.0-3.0	1.7-3.5	---	---	None	---	None
			February	1.0-3.0	1.7-3.5	---	---	None	---	None
			March	1.0-3.0	1.7-3.5	---	---	None	---	None
			April	1.0-3.0	1.7-3.5	---	---	None	---	None
			May	2.0-3.1	2.5-4.0	---	---	None	---	None
			November	2.5-3.0	3.0-3.5	---	---	None	---	None
			December	1.0-2.5	1.7-3.0	---	---	None	---	None
GfcF:										
Gilpin	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Tipsaw	B	High								
			Jan-Dec	---	---	---	---	None	---	None
Ebal	C	Very high								
			January	2.0-3.0	2.5-6.0	---	---	None	---	None
			February	2.0-3.0	2.5-6.0	---	---	None	---	None
			March	2.0-3.0	2.5-6.0	---	---	None	---	None
			April	2.0-3.0	2.5-6.0	---	---	None	---	None
			May	3.0-4.0	4.0-6.0	---	---	None	---	None
			November	3.0-4.0	4.0-6.0	---	---	None	---	None
			December	2.0-3.0	2.5-6.0	---	---	None	---	None
GgbG:										
Gilwood	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Brownstown	C	High								
			Jan-Dec	---	---	---	---	None	---	None
GmaG:										
Gnawbone	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Kurtz	B	High								

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
HcaA:										
Hatfield------------------	C	Low								
			January	0.5-2.0	2.0-3.5	---	---	None	---	None
			February	0.5-2.0	2.0-3.5	---	---	None	---	None
			March	0.5-2.0	2.0-3.5	---	---	None	---	None
			April	0.5-2.0	2.0-3.5	---	---	None	---	None
			May	1.0-3.5	5.0-6.7	---	---	None	---	None
			June	2.0-3.5	5.0-6.7	---	---	None	---	None
			July	3.5-6.0	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			November	1.0-3.0	2.5-3.5	---	---	None	---	None
			December	0.5-2.0	2.0-3.5	---	---	None	---	None
HcgAH:										
Haymond-------------------	B	Very low								
			January	---	---	---	---	None	Brief	Frequent
			February	---	---	---	---	None	Brief	Frequent
			March	---	---	---	---	None	Brief	Frequent
			April	---	---	---	---	None	Brief	Frequent
			May	---	---	---	---	None	Brief	Occasional
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Occasional
HcgAW:										
Haymond-------------------	B	Very low								
			January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
HcpAP:										
Haymond	B	Negligible								
			January	---	---	0.5-2.0	Very brief	Frequent	---	None
			February	---	---	0.5-2.0	Very brief	Frequent	---	None
			March	---	---	0.5-2.0	Very brief	Frequent	---	None
			April	---	---	0.5-2.0	Very brief	Frequent	---	None
			May	---	---	0.5-2.0	Very brief	Occasional	---	None
			June	---	---	0.5-2.0	Very brief	Occasional	---	None
			July	---	---	0.5-2.0	Very brief	Occasional	---	None
			August	---	---	0.5-2.0	Very brief	Rare	---	None
			September	---	---	0.5-2.0	Very brief	Rare	---	None
			October	---	---	0.5-2.0	Very brief	Rare	---	None
			November	---	---	0.5-2.0	Very brief	Rare	---	None
			December	---	---	0.5-2.0	Very brief	Occasional	---	None
HufAH:										
Huntington	B	Very low								
			January	---	---	---	---	None	Brief	Frequent
			February	---	---	---	---	None	Brief	Frequent
			March	---	---	---	---	None	Brief	Frequent
			April	---	---	---	---	None	Brief	Frequent
			May	---	---	---	---	None	Brief	Occasional
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Occasional
HufAK:										
Huntington	B	Very low								
			January	---	---	---	---	None	Brief	Occasional
			February	---	---	---	---	None	Brief	Occasional
			March	---	---	---	---	None	Brief	Occasional
			April	---	---	---	---	None	Brief	Occasional
			May	---	---	---	---	None	Brief	Occasional
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Rare

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
JoaA:										
Johnsburg-----------------	B	Low								
			January	0.5-2.0	2.0-3.5	---	---	None	---	None
			February	0.5-2.0	2.0-3.5	---	---	None	---	None
			March	0.5-2.0	2.0-3.5	---	---	None	---	None
			April	0.5-2.0	2.0-3.5	---	---	None	---	None
			May	1.0-3.5	5.0-6.7	---	---	None	---	None
			June	2.0-3.5	5.0-6.7	---	---	None	---	None
			July	3.5-6.0	5.0-6.7	---	---	None	---	None
			August	3.5-6.0	5.0-6.7	---	---	None	---	None
			November	1.0-3.0	2.5-3.5	---	---	None	---	None
			December	0.5-2.0	2.0-3.5	---	---	None	---	None
KunAW:										
Kintner-------------------	C	Low								
			January	2.5-3.3	4.0-5.0	---	---	None	Very brief	Occasional
			February	2.5-3.3	4.0-5.0	---	---	None	Very brief	Occasional
			March	2.5-3.3	4.0-5.0	---	---	None	Very brief	Occasional
			April	2.5-3.3	4.0-5.0	---	---	None	Very brief	Occasional
			May	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			June	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
			July	4.0-5.0	4.0-5.0	---	---	None	Very brief	Rare
			August	4.0-5.0	4.0-5.0	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	3.3-5.0	4.0-5.0	---	---	None	Very brief	Rare
			December	2.5-3.3	4.0-5.0	---	---	None	Very brief	Rare
KxkC2:										
Knobcreek-----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Navilleton----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxlC3:										
Knobcreek-----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt-------------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
KxlE3:										
Knobcreek	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxmE2:										
Knobcreek	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxoC2:										
Knobcreek	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Navilleton	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxpD2:										
Knobcreek	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxrC3:										
Knobcreek	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Navilleton	C	High								
			Jan-Dec	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
KxrC3:										
Haggatt-------------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxsD3:										
Knobcreek-----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt-------------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxtC2:										
Knobcreek-----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt-------------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
KxtC3:										
Knobcreek-----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt-------------------	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville----------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
LaaA:										
Laconia-------------------	C	Negligible								
			January	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	---	None
			February	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	---	None
			March	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	---	None
			April	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	---	None
			May	1.5-3.5	>6.0	0.0-1.0	Very brief	Frequent	---	None
			June	2.0-4.0	>6.0	0.0-1.0	Very brief	Occasional	---	None
			July	3.0-5.0	>6.0	0.0-1.0	Very brief	Occasional	---	None
			August	3.5-6.0	>6.0	0.0-1.0	Very brief	Occasional	---	None
			September	5.0-6.0	>6.0	0.0-1.0	Very brief	Rare	---	None
			October	5.0-6.0	>6.0	0.0-1.0	Very brief	Rare	---	None
			November	0.5-1.5	>6.0	0.0-1.0	Very brief	Occasional	---	None
			December	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
LpoAK:										
Lindside------------------	B	Negligible								
			January	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			February	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			March	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			April	1.5-2.5	>6.0	---	---	None	Brief	Occasional
			May	2.5-4.5	>6.0	---	---	None	Brief	Occasional
			June	3.0-5.0	>6.0	---	---	None	Brief	Occasional
			July	3.5-6.0	>6.0	---	---	None	Brief	Rare
			August	3.5-6.0	>6.0	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	2.5-4.5	>6.0	---	---	None	Brief	Rare
			December	1.5-2.5	>6.0	---	---	None	Brief	Rare
LpoAQ:										
Lindside------------------	B	Negligible								
			January	1.5-2.5	>6.0	---	---	None	Very brief	Rare
			February	1.5-2.5	>6.0	---	---	None	Very brief	Rare
			March	1.5-2.5	>6.0	---	---	None	Very brief	Rare
			April	1.5-2.5	>6.0	---	---	None	Very brief	Rare
			May	2.5-4.5	>6.0	---	---	None	Very brief	Rare
			June	3.0-5.0	>6.0	---	---	None	Very brief	Rare
			July	3.5-6.0	>6.0	---	---	None	Very brief	Very rare
			August	3.5-6.0	>6.0	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	2.5-4.5	>6.0	---	---	None	Very brief	Very rare
			December	1.5-2.5	>6.0	---	---	None	Very brief	Very rare
McnGQ:										
Markland------------------	C	Very high								
			January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Very rare
			August	---	---	---	---	None	Brief	Very rare
			September	---	---	---	---	None	Brief	Very rare
			October	---	---	---	---	None	Brief	Very rare
			November	---	---	---	---	None	Brief	Very rare
			December	---	---	---	---	None	Brief	Very rare
MdlD2:										
Markland------------------	C	High								

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
MdwD3:										
Markland------------------	C	High								
			Jan-Dec	---	---	---	---	None	---	None
MhuA:										
McGary--------------------	C	Medium								
			January	0.5-2.0	3.0-4.5	---	---	None	---	None
			February	0.5-2.0	3.0-4.5	---	---	None	---	None
			March	0.5-2.0	3.0-4.5	---	---	None	---	None
			April	0.5-2.0	3.0-4.5	---	---	None	---	None
			May	1.0-3.5	3.5-5.0	---	---	None	---	None
			June	1.0-3.5	3.5-5.0	---	---	None	---	None
			July	3.5-6.0	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			November	1.0-3.0	3.0-4.5	---	---	None	---	None
			December	0.5-2.0	3.0-4.5	---	---	None	---	None
NbhAK:										
Newark--------------------	B	Negligible								
			January	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			February	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			May	2.0-4.0	>6.0	---	---	None	Brief	Occasional
			June	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			July	3.0-6.0	>6.0	---	---	None	Brief	Rare
			August	3.0-6.0	>6.0	---	---	None	Brief	Rare
			September	4.0-6.0	>6.0	---	---	None	Brief	Rare
			October	4.0-6.0	>6.0	---	---	None	Brief	Rare
			November	1.5-4.0	>6.0	---	---	None	Brief	Rare
			December	0.5-2.0	>6.0	---	---	None	Brief	Rare
NbhAQ:										
Newark--------------------	B	Negligible								
			January	0.5-2.0	>6.0	---	---	None	Very brief	Rare
			February	0.5-2.0	>6.0	---	---	None	Very brief	Rare
			March	0.5-2.0	>6.0	---	---	None	Very brief	Rare
			April	0.5-2.0	>6.0	---	---	None	Very brief	Rare
			May	2.0-4.0	>6.0	---	---	None	Very brief	Rare
			June	2.5-5.0	>6.0	---	---	None	Very brief	Rare
			July	3.0-6.0	>6.0	---	---	None	Very brief	Very rare
			August	3.0-6.0	>6.0	---	---	None	Very brief	Very rare
			September	4.0-6.0	>6.0	---	---	None	Very brief	Very rare
			October	4.0-6.0	>6.0	---	---	None	Very brief	Very rare
			November	1.5-4.0	>6.0	---	---	None	Very brief	Very rare
			December	0.5-2.0	>6.0	---	---	None	Very brief	Very rare

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
NprAQ:										
Nolin	B	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Omz.										
Orthents										
PcrA:										
Pekin	B	Medium								
			January	1.5-2.0	2.0-3.0	---	---	None	---	None
			February	1.5-2.0	2.0-3.0	---	---	None	---	None
			March	1.5-2.0	2.0-3.0	---	---	None	---	None
			April	1.5-2.0	2.0-3.0	---	---	None	---	None
			May	2.0-3.5	5.0-6.7	---	---	None	---	None
			June	3.0-4.0	5.0-6.7	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	2.5-3.0	---	---	None	---	None
			December	1.5-2.0	2.0-3.0	---	---	None	---	None
PcrB2:										
Pekin	B	Medium								
			January	1.5-2.0	2.0-3.0	---	---	None	---	None
			February	1.5-2.0	2.0-3.0	---	---	None	---	None
			March	1.5-2.0	2.0-3.0	---	---	None	---	None
			April	1.5-2.0	2.0-3.0	---	---	None	---	None
			May	2.0-3.5	5.0-6.7	---	---	None	---	None
			June	3.0-4.0	5.0-6.7	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	2.5-3.0	---	---	None	---	None
			December	1.5-2.0	2.0-3.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
PhwB2:										
Percell	C	Low								
			January	2.0-3.5	4.0-6.0	---	---	None	---	None
			February	2.0-3.5	4.0-6.0	---	---	None	---	None
			March	2.0-3.5	4.0-6.0	---	---	None	---	None
			April	2.0-3.5	4.0-6.0	---	---	None	---	None
			May	2.5-4.0	4.0-6.0	---	---	None	---	None
			June	3.0-4.5	4.0-6.0	---	---	None	---	None
			November	2.5-4.0	4.0-6.0	---	---	None	---	None
			December	2.0-3.5	4.0-6.0	---	---	None	---	None
Pml.										
Pits, quarry										
Ppu.										
Pits, sand and gravel										
RmcE:										
Riney	B	High								
			Jan-Dec	---	---	---	---	None	---	None
ScbA:										
Sciotoville	B	Medium								
			January	1.5-2.0	2.0-3.0	---	---	None	---	None
			February	1.5-2.0	2.0-3.0	---	---	None	---	None
			March	1.5-2.0	2.0-3.0	---	---	None	---	None
			April	1.5-2.0	2.0-3.0	---	---	None	---	None
			May	2.0-3.5	5.0-6.7	---	---	None	---	None
			June	3.0-4.0	5.0-6.7	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	2.5-3.0	---	---	None	---	None
			December	1.5-2.0	2.0-3.0	---	---	None	---	None
ScbB2:										
Sciotoville	B	Medium								
			January	1.5-2.0	2.0-3.0	---	---	None	---	None
			February	1.5-2.0	2.0-3.0	---	---	None	---	None
			March	1.5-2.0	2.0-3.0	---	---	None	---	None
			April	1.5-2.0	2.0-3.0	---	---	None	---	None
			May	2.0-3.5	5.0-6.7	---	---	None	---	None
			June	3.0-4.0	5.0-6.7	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			November	2.0-2.5	2.5-3.0	---	---	None	---	None
			December	1.5-2.0	2.0-3.0	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
SfyB:										
Shircliff----------------	C	Medium								
			January	1.5-2.5	3.3-5.0	---	---	None	---	None
			February	1.5-2.5	3.3-5.0	---	---	None	---	None
			March	1.5-2.5	3.3-5.0	---	---	None	---	None
			April	1.5-2.5	3.3-5.0	---	---	None	---	None
			May	2.0-3.5	5.0-6.7	---	---	None	---	None
			June	2.5-4.0	5.0-6.7	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			November	2.5-3.5	3.3-5.0	---	---	None	---	None
			December	1.5-2.5	3.3-5.0	---	---	None	---	None
Uaa.										
Udorthents										
UekAQ:										
Urban land.										
Elkinsville---------------	B	Low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
UekAQ:										
Haymond-------------------	B	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
UflC:										
Urban land.										
Crider	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Vertrees	C	High								
			Jan-Dec	---	---	---	---	None	---	None
UnsB:										
Urban land.										
Udarents	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Usl.										
Udorthents										
VcaC3:										
Vertrees	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Crider	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
VcbD2:										
Vertrees	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Crider	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None
VccD3:										
Vertrees	C	High								
			Jan-Dec	---	---	---	---	None	---	None
Haggatt	B	Medium								
			Jan-Dec	---	---	---	---	None	---	None
Caneyville	C	High								
			Jan-Dec	---	---	---	---	None	---	None

Table 20.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Runoff class	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
W.										
Water										
WbkAP:										
Wilbur	B	Negligible								
			January	1.5-2.5	>6.0	0.5-2.0	Very brief	Frequent	---	None
			February	1.5-2.5	>6.0	0.5-2.0	Very brief	Frequent	---	None
			March	1.5-2.5	>6.0	0.5-2.0	Very brief	Frequent	---	None
			April	1.5-2.5	>6.0	0.5-2.0	Very brief	Frequent	---	None
			May	2.5-4.5	>6.0	0.5-2.0	Very brief	Occasional	---	None
			June	3.0-5.0	>6.0	0.5-2.0	Very brief	Occasional	---	None
			July	3.5-6.0	>6.0	0.5-2.0	Very brief	Occasional	---	None
			August	3.5-6.0	>6.0	0.5-2.0	Very brief	Rare	---	None
			September	---	---	0.5-2.0	Very brief	Rare	---	None
			October	---	---	0.5-2.0	Very brief	Rare	---	None
			November	2.5-4.5	>6.0	0.5-2.0	Very brief	Rare	---	None
			December	1.5-2.5	>6.0	0.5-2.0	Very brief	Occasional	---	None
Newark	B	Negligible								
			January	0.5-2.0	>6.0	0.5-2.0	Very brief	Frequent	---	None
			February	0.5-2.0	>6.0	0.5-2.0	Very brief	Frequent	---	None
			March	0.5-2.0	>6.0	0.5-2.0	Very brief	Frequent	---	None
			April	0.5-2.0	>6.0	0.5-2.0	Very brief	Frequent	---	None
			May	2.0-4.0	>6.0	0.5-2.0	Very brief	Occasional	---	None
			June	2.0-4.0	>6.0	0.5-2.0	Very brief	Occasional	---	None
			July	3.0-6.0	>6.0	0.5-2.0	Very brief	Occasional	---	None
			August	3.0-6.0	>6.0	0.5-2.0	Very brief	Rare	---	None
			September	4.0-6.0	>6.0	0.5-2.0	Very brief	Rare	---	None
			October	4.0-6.0	>6.0	0.5-2.0	Very brief	Rare	---	None
			November	1.5-4.0	>6.0	0.5-2.0	Very brief	Rare	---	None
			December	0.5-2.0	>6.0	0.5-2.0	Very brief	Occasional	---	None
WycAQ:										
Woodmere	C	Low								
			January	2.5-3.5	>6.0	---	---	None	Very brief	Rare
			February	2.5-3.5	>6.0	---	---	None	Very brief	Rare
			March	2.5-3.5	>6.0	---	---	None	Very brief	Rare
			April	2.5-3.5	>6.0	---	---	None	Very brief	Rare
			May	3.0-4.5	>6.0	---	---	None	Very brief	Rare
			June	3.5-5.0	>6.0	---	---	None	Very brief	Rare
			July	4.0-6.0	>6.0	---	---	None	Very brief	Very rare
			August	4.0-6.0	>6.0	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	3.0-4.5	>6.0	---	---	None	Very brief	Very rare
			December	2.5-3.5	>6.0	---	---	None	Very brief	Rare

Table 21.—Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer			Potential for frost action	Soil slippage potential	Risk of corrosion	
	Kind	Depth to top	Hardness			Uncoated steel	Concrete
		In					
AeoB2:							
Alford----------	---	---	---	High	---	Moderate	Moderate
AeoC2:							
Alford----------	---	---	---	High	---	Moderate	Moderate
AgzB:							
Apalona---------	Fragipan	20-40	Noncemented	High	---	Moderate	Moderate
	Paralithic bedrock	72-100	Moderately cemented				
Zanesville-------	Fragipan	20-32	Noncemented	High	---	Moderate	Moderate
	Lithic bedrock	40-80	Strongly cemented				
BbhA:							
Bartle----------	---	---	---	High	---	High	High
BcrAW:							
Beanblossom------	Paralithic bedrock	40-60	Moderately cemented	Moderate	---	Low	Moderate
BdoA:							
Bedford---------	Fragipan	20-38	Noncemented	High	---	High	High
BdoB:							
Bedford---------	Fragipan	20-38	Noncemented	High	---	High	High
BkeC2:							
Bloomfield-------	---	---	---	Low	---	Low	Moderate
Alvin-----------	---	---	---	Moderate	---	Low	Moderate
BuoA:							
Bromer----------	---	---	---	High	---	High	High
BvsG:							
Brussels---------	---	---	---	Moderate	Medium	High	Low
Rock outcrop-----	Lithic bedrock	---	Indurated	---	---	---	---
CbrD2:							
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
Haggatt---------	Lithic bedrock	40-60	Indurated	Moderate	Medium	Moderate	Moderate
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Medium	Moderate	Moderate

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
CbsD3:							
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Medium	High	Moderate
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Medium	High	Moderate
CbxD4:							
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Medium	High	Moderate
CcaG:							
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	Moderate	Moderate
Rock outcrop-----	Lithic bedrock	---	Indurated	---	---	---	---
CtaB:							
Crider-----------	Lithic bedrock	60-120	Indurated	High	---	Moderate	Moderate
CteC2:							
Crider-----------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Vertrees---------	Lithic bedrock	60-120	Indurated	Moderate	Low	High	Moderate
CtwB:							
Crider-----------	Lithic bedrock	60-120	Indurated	High	---	Moderate	Moderate
Bedford----------	Fragipan	20-38	Noncemented	High	---	High	High
Navilleton-------	Lithic bedrock	60-120	Indurated	High	---	Moderate	Moderate
DeaC2:							
Deuchars---------	Paralithic bedrock	60-80	Moderately cemented	High	Medium	High	High
Apalona----------	Fragipan Paralithic bedrock	20-40 72-100	Noncemented Moderately cemented	High	Low	Moderate	Moderate
Wellston---------	Paralithic bedrock	40-72	Moderately cemented	High	Low	Low	Moderate
DeaC3:							
Deuchars---------	Paralithic bedrock	60-80	Moderately cemented	High	Medium	High	High

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
DeaC3:							
Apalona----------	Fragipan	15-24	Noncemented	High	Low	Moderate	Moderate
	Paralithic bedrock	72-100	Moderately cemented				
Wellston---------	Paralithic bedrock	40-72	Moderately cemented	High	Medium	Low	Moderate
EbhD2:							
Ebal-------------	Paralithic bedrock	50-90	Moderately cemented	Moderate	High	High	Moderate
Gilpin-----------	Lithic bedrock	20-40	Very strongly cemented	Moderate	Medium	Low	Moderate
Wellston---------	Paralithic bedrock	40-60	Moderately cemented	High	Medium	Low	Moderate
EbhD3:							
Ebal-------------	Paralithic bedrock	50-80	Moderately cemented	Moderate	High	High	Moderate
Gilpin-----------	Lithic bedrock	20-40	Very strongly cemented	Moderate	Medium	Low	Moderate
Wellston---------	Paralithic bedrock	40-60	Moderately cemented	High	Medium	Low	Moderate
EepA:							
Elkinsville------	---	---	---	High	---	Low	Moderate
EepB2:							
Elkinsville------	---	---	---	High	---	Low	Moderate
EepC2:							
Elkinsville------	---	---	---	High	---	Low	Moderate
EepGQ:							
Elkinsville------	---	---	---	High	Medium	Low	Moderate
EesA:							
Elkinsville------	---	---	---	High	---	Moderate	High
Millstone--------	---	---	---	Moderate	---	Low	High
EesB:							
Elkinsville------	---	---	---	High	---	Moderate	High
Millstone--------	---	---	---	Moderate	---	Low	High
EesC2:							
Elkinsville------	---	---	---	High	---	Low	High
Millstone--------	---	---	---	Moderate	---	Low	High
EesFQ:							
Elkinsville------	---	---	---	High	Medium	Low	High
Millstone--------	---	---	---	Moderate	Medium	Low	High

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
GacAW:							
Gatchel----------	---	---	---	Moderate	---	Low	Low
GbgB2:							
Gatton-----------	Fragipan	20-36	Noncemented	High	---	Moderate	Moderate
GbgC2:							
Gatton-----------	Fragipan	20-36	Noncemented	High	Low	Moderate	Moderate
GbgC3:							
Gatton-----------	Fragipan	20-36	Noncemented	High	Low	Moderate	Moderate
GfcF:							
Gilpin-----------	Lithic bedrock	20-40	Very strongly cemented	Moderate	Medium	Low	Moderate
Tipsaw-----------	Paralithic bedrock	20-40	Moderately cemented	Moderate	Medium	Low	High
Ebal-------------	Paralithic bedrock	50-80	Moderately cemented	Moderate	High	High	Moderate
GgbG:							
Gilwood----------	Lithic bedrock	20-40	Very strongly cemented	Moderate	Medium	Low	High
Brownstown-------	Lithic bedrock	20-40	Strongly cemented	Moderate	Medium	Low	High
GmaG:							
Gnawbone---------	Paralithic bedrock	20-40	Moderately cemented	High	High	Moderate	High
Kurtz------------	Paralithic bedrock	40-60	Moderately cemented	High	High	Moderate	High
HcaA:							
Hatfield---------	---	---	---	High	---	High	Moderate
HcgAH:							
Haymond----------	---	---	---	High	---	Low	Low
HcgAW:							
Haymond----------	---	---	---	High	---	Low	Low
HcpAP:							
Haymond----------	---	---	---	High	---	Low	Low
HufAH:							
Huntington-------	---	---	---	High	---	Moderate	Low
HufAK:							
Huntington-------	---	---	---	High	---	Low	Low
JoaA:							
Johnsburg--------	Paralithic bedrock	60-100	Moderately cemented	High	---	High	High

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
KunAW:							
Kintner----------	Lithic bedrock	40-60	Indurated	Moderate	---	Low	Low
KxkC2:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Navilleton-------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
KxlC3:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Low	High	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Low	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Low	High	Moderate
KxlE3:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Medium	High	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Medium	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
KxmE2:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Medium	Moderate	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Medium	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
KxoC2:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Navilleton-------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Low	High	Moderate
KxpD2:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Medium	Moderate	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Medium	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Soil slippage potential	Risk of corrosion	
	Kind	Depth to top	Hardness			Uncoated steel	Concrete
		In					
KxrC3:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Low	High	Moderate
Navilleton-------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Low	High	Moderate
KxsD3:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Medium	High	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Medium	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
KxtC2:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Low	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
KxtC3:							
Knobcreek--------	Lithic bedrock	60-120	Indurated	High	Low	High	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Low	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Low	High	Moderate
LaaA:							
Laconia----------	---	---	---	High	---	High	Moderate
LpoAK:							
Lindside---------	---	---	---	High	---	High	Moderate
LpoAQ:							
Lindside---------	---	---	---	High	---	Moderate	Moderate
McnGQ:							
Markland---------	---	---	---	Moderate	Medium	High	Moderate
MdlD2:							
Markland---------	---	---	---	Moderate	Medium	High	Low
MdwD3:							
Markland---------	---	---	---	Moderate	Medium	High	Low
MhuA:							
McGary-----------	---	---	---	High	---	High	Low

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
NbhAK:							
Newark-----------	---	---	---	High	---	High	Low
NbhAQ:							
Newark-----------	---	---	---	High	---	High	Low
NprAQ:							
Nolin------------	---	---	---	High	---	Low	Moderate
Omz.							
Orthents							
PcrA:							
Pekin------------	---	---	---	High	---	Moderate	High
PcrB2:							
Pekin------------	---	---	---	High	---	Moderate	High
PhwB2:							
Percell----------	---	---	---	High	---	Moderate	Moderate
Pml.							
Pits, quarry							
Ppu.							
Pits, sand and gravel							
RmcE:							
Riney------------	---	---	---	Moderate	Medium	Moderate	High
ScbA:							
Sciotoville------	---	---	---	High	---	Moderate	High
ScbB2:							
Sciotoville------	---	---	---	High	---	Moderate	High
SfyB:							
Shircliff--------	---	---	---	Moderate	---	High	Moderate
Uaa.							
Udorthents							
UekAQ:							
Urban land.							
Elkinsville------	---	---	---	High	---	Low	Moderate
Haymond----------	---	---	---	High	---	Low	Low
UflC:							
Urban land.							
Crider-----------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Vertrees---------	Lithic bedrock	60-120	Indurated	Moderate	Low	High	Moderate

Table 21.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
UnsB:							
Urban land.							
Udarents---------	Lithic bedrock	40-120	Very strongly cemented	Moderate	Low	High	Moderate
Usl.							
Udorthents							
VcaC3:							
Vertrees---------	Lithic bedrock	60-120	Indurated	Moderate	Low	High	Moderate
Crider-----------	Lithic bedrock	60-120	Indurated	High	Low	Moderate	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Low	High	Moderate
VcbD2:							
Vertrees---------	Lithic bedrock	60-120	Indurated	Moderate	Low	High	Moderate
Crider-----------	Lithic bedrock	60-120	Indurated	High	Medium	Moderate	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
VccD3:							
Vertrees---------	Lithic bedrock	60-120	Indurated	Moderate	Medium	High	Moderate
Haggatt----------	Lithic bedrock	40-60	Indurated	Moderate	Medium	High	Moderate
Caneyville-------	Lithic bedrock	20-40	Indurated	Moderate	Medium	High	Moderate
W.							
Water							
WbkAP:							
Wilbur-----------	---	---	---	High	---	Moderate	Low
Newark-----------	---	---	---	High	---	High	Low
WycAQ:							
Woodmere---------	---	---	---	High	---	High	Moderate

Table 22.—Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Alford	Fine-silty, mixed, superactive, mesic Ultic Hapludalfs
*Alvin	Coarse-loamy, mixed, active, mesic Ultic Hapludalfs
Apalona	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
*Bartle	Fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs
Beanblossom	Loamy-skeletal, mixed, active, mesic Fluventic Dystrudepts
Bedford	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Bloomfield	Sandy, mixed, mesic Lamellic Hapludalfs
Bromer	Fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs
Brownstown	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Brussels	Clayey-skeletal, mixed, superactive, mesic Typic Hapludolls
Caneyville	Fine, mixed, active, mesic Typic Hapludalfs
*Caneyville	Very fine, mixed, semiactive, mesic Typic Hapludalfs
Crider	Fine-silty, mixed, active, mesic Typic Paleudalfs
Deuchars	Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs
Ebal	Fine, mixed, active, mesic Oxyaquic Hapludalfs
Elkinsville	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Gatchel	Loamy-skeletal, mixed, superactive, mesic Dystric Fluventic Eutrudepts
*Gatton	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Gilpin	Fine-loamy, mixed, active, mesic Typic Hapludults
Gilwood	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Gnawbone	Fine-silty, mixed, semiactive, mesic Typic Hapludults
Haggatt	Fine, mixed, active, mesic Typic Hapludalfs
Hatfield	Fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs
Haymond	Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Huntington	Fine-silty, mixed, active, mesic Fluventic Hapludolls
*Johnsburg	Fine-silty, mixed, active, mesic Fragiaquic Hapludalfs
Kintner	Loamy-skeletal, mixed, active, mesic Oxyaquic Eutrudepts
Knobcreek	Fine-silty over clayey, mixed, active, mesic Typic Paleudalfs
Kurtz	Fine-silty, mixed, semiactive, mesic Ultic Hapludalfs
Laconia	Fine-silty, mixed, active, mesic Typic Endoaqualfs
Lindside	Fine-silty, mixed, active, mesic Fluvaquentic Eutrudepts
*Lindside	Fine-silty, mixed, active, mesic Aquic Dystric Eutrudepts
Markland	Fine, mixed, active, mesic Typic Hapludalfs
McGary	Fine, mixed, active, mesic Aeric Epiaqualfs
Millstone	Fine-loamy, mixed, active, mesic Typic Hapludults
Navilleton	Fine-silty, mixed, active, mesic Typic Paleudalfs
Newark	Fine-silty, mixed, active, nonacid, mesic Fluventic Endoaquepts
*Newark	Fine-silty, mixed, active, nonacid, mesic Aeric Endoaquepts
*Nolin	Fine-silty, mixed, active, mesic Dystric Eutrudepts
Orthents	Orthents
*Pekin	Fine-silty, mixed, active, mesic Fragiaquic Hapludults
Percell	Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs
Riney	Fine-loamy, siliceous, semiactive, mesic Typic Hapludults
*Sciotoville	Fine-silty, mixed, active, mesic Fragiaquic Hapludalfs
Shircliff	Fine, mixed, active, mesic Oxyaquic Hapludalfs
Tipsaw	Coarse-loamy, mixed, semiactive, mesic Typic Dystrudepts
Udarents	Udarents
Udorthents	Udorthents
Udorthents, rubbish	Udorthents
*Vertrees	Very fine, mixed, semiactive, mesic Typic Paleudalfs
Wellston	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Wilbur	Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts
*Woodmere	Fine-silty, mixed, active, mesic Aquic Dystrudepts
Zanesville	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

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INDEX TO MAP SHEETS
HARRISON COUNTY, INDIANA

MILES

KILOMETERS

SCALE = 1:90000

SOIL LEGEND

Map symbols consist of a combination of letters or letters and numbers. The initial one to three letters represent the map unit. A capital letter following the first three letters indicates a slope phase. Map symbols without a slope letter are for miscellaneous areas. Symbols ending with a number indicate an erosion class (2 indicates a moderate slope class, 3 a severe one, and 4 a very severe one). A second capital letter indicates an inundation phase or other soil phase. H indicates frequently flooded of brief duration, K occasionally flooded of brief duration, W occasionally flooded of very brief duration, Q rarely flooded, and P ponded.

SYMBOL	NAME
AeoB2	Alford silt loam, 2 to 6 percent slopes, eroded
AeoC2	Alford silt loam, 6 to 12 percent slopes, eroded
AgzB	Apalona-Zanesville silt loams, 2 to 6 percent slopes
BbhA	Bartle silt loam, 0 to 2 percent slopes
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration
BdoA	Bedford silt loam, 0 to 2 percent slopes
BdoB	Bedford silt loam, 2 to 6 percent slopes
BkeC2	Bloomfield-Alvin complex, 6 to 15 percent slopes, eroded
BuoA	Bromer silt loam, 0 to 2 percent slopes
BvsG	Brussels-Rock outcrop complex, 35 to 90 percent slopes, rubbly
CbrD2	Caneyville-Haggatt-Knobcreek silt loams, karst, hilly, eroded
CbsD3	Caneyville-Haggatt-Knobcreek complex, karst, hilly, severely eroded
CbxD4	Caneyville-Haggatt silty clay loams, karst, rolling, very severely eroded, very rocky
CcaG	Caneyville-Rock outcrop complex, 25 to 60 percent slopes
CtaB	Crider silt loam, karst, undulating
CteC2	Crider-Vertrees silt loams, karst, rolling, eroded
CtwB	Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes
DeaC2	Deuchars-Apalona-Wellston silt loams, 6 to 12 percent slopes, eroded
DeaC3	Deuchars-Apalona-Wellston silt loams, 6 to 12 percent slopes, severely eroded
EbhD2	Ebal-Gilpin-Wellston silt loams, 10 to 22 percent slopes, eroded
EbhD3	Ebal-Gilpin-Wellston silt loams, 10 to 22 percent slopes, severely eroded
EepA	Elkinsville silt loam, 0 to 2 percent slopes
EepB2	Elkinsville silt loam, 2 to 6 percent slopes, eroded
EepC2	Elkinsville silt loam, 6 to 12 percent slopes, eroded
EepGQ	Elkinsville silt loam, 25 to 60 percent slopes, rarely flooded
EesA	Elkinsville-Millstone complex, 0 to 2 percent slopes
EesB	Elkinsville-Millstone complex, 2 to 6 percent slopes
EesC2	Elkinsville-Millstone complex, 6 to 12 percent slopes, eroded
EesFQ	Elkinsville-Millstone complex, 18 to 40 percent slopes, rarely flooded
GacAW	Gatchel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
GbgB2	Gatton silt loam, 2 to 6 percent slopes, eroded
GbgC2	Gatton silt loam, 6 to 12 percent slopes, eroded
GbgC3	Gatton silt loam, 6 to 12 percent slopes, severely eroded
GfcF	Gilpin-Tipsaw-Ebal complex, 18 to 35 percent slopes, stony
GgbG	Gilwood-Brownstown silt loams, 25 to 75 percent slopes
GmaG	Gnawbone-Kurtz silt loams, 20 to 60 percent slopes
HcaA	Hatfield silt loam, 0 to 2 percent slopes
HcgAH	Haymond silt loam, 0 to 2 percent slopes, frequently flooded, brief duration
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
HcpAP	Haymond silt loam, depression, 0 to 2 percent slopes, frequently ponded, very brief duration
HufAH	Huntington silt loam, 0 to 2 percent slopes, frequently flooded, brief duration
HufAK	Huntington silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration
JoaA	Johnsburg silt loam, 0 to 2 percent slopes
KunAW	Kintner loam, 1 to 3 percent slopes, occasionally flooded, very brief duration
KxkC2	Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded
KxlC3	Knobcreek-Haggatt-Caneyville complex, 6 to 12 percent slopes, severely eroded
KxlE3	Knobcreek-Haggatt-Caneyville complex, 12 to 25 percent slopes, severely eroded
KxmE2	Knobcreek-Haggatt-Caneyville silt loams, 12 to 25 percent slopes, eroded
KxoC2	Knobcreek-Navilleton-Haggatt silt loams, karst, rolling, eroded
KxpD2	Knobcreek-Haggatt-Caneyville silt loams, karst, hilly, eroded
KxrC3	Knobcreek-Navilleton-Haggatt complex, karst, rolling, severely eroded
KxsD3	Knobcreek-Haggatt-Caneyville complex, karst, hilly, severely eroded
KxtC2	Knobcreek-Haggatt-Caneyville silt loams, karst, rolling, eroded
KxtC3	Knobcreek-Haggatt-Caneyville complex, karst, rolling, severely eroded
LaaA	Laconia silt loam, 0 to 1 percent slopes
LpoAK	Lindside silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration
LpoAQ	Lindside silt loam, 0 to 2 percent slopes, rarely flooded
McnGQ	Markland silt loam, 18 to 50 percent slopes, rarely flooded
MdlD2	Markland silt loam, 6 to 18 percent slopes, eroded
MdwD3	Markland silty clay loam, 6 to 18 percent slopes, severely eroded
MhuA	McGary silt loam, 0 to 2 percent slopes
NbhAK	Newark silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration
NbhAQ	Newark silt loam, 0 to 2 percent slopes, rarely flooded
NprAQ	Nolin silt loam, 0 to 2 percent slopes, rarely flooded
Omz	Orthents, earthen dam
PcrA	Pekin silt loam, 0 to 2 percent slopes
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded
PhwB2	Percell silt loam, 2 to 6 percent slopes, eroded
Pml	Pits, quarry
Ppu	Pits, sand and gravel
RmcE	Riney loam, 12 to 35 percent slopes
ScbA	Sciotoville silt loam, 0 to 2 percent slopes
ScbB2	Sciotoville silt loam, 2 to 6 percent slopes, eroded
SfyB	Shircliff silt loam, 0 to 2 percent slopes
Uaa	Udorthents, cut and filled
UekAQ	Urban land-Elkinsville-Haymond complex, 0 to 6 percent slopes, rarely flooded
UflC	Urban land-Crider-Vertrees complex, karst, rolling
UnsB	Urban land-Udarents, clayey substratum complex, hills, 2 to 12 percent slopes
Usl	Udorthents, rubbish
VcaC3	Vertrees-Crider-Caneyville complex, karst, rolling, severely eroded
VcbD2	Vertrees-Crider-Caneyville silt loams, karst, hilly, eroded
VccD3	Vertrees-Haggatt-Caneyville complex, karst, hilly, severely eroded
W	Water
WbkAP	Wilbur-Newark silt loams, depression, 0 to 2 percent slopes, frequently ponded, very brief duration
WycAQ	Woodmere silt loam, 0 to 3 percent slopes, rarely flooded

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

National, state, or province

County or parish

Minor civil division

Reservation (Military)

Land grant

Field sheet matchline & neatline

Public Land Survey System (section corner tics)

GEOGRAPHIC COORDINATE TICK

ROAD EMBLEM & DESIGNATIONS

Interstate — 173

Federal — 287

State — 52

LOCATED OBJECT

Airport — Label only

HYDROGRAPHIC FEATURES

STREAMS

Unclassified

Drainage end

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS — AeoB2 BdoB

Bedrock escarpment

Nonbedrock escarpment

Mine or quarry

Rock outcrop

Sandy spot

Short steep slope

Sinkhole

Wet spot

AD HOC FEATURES

Unclassified water

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

A	B	C
D		2
E	6	7

A HARDINSBURG NW
B HARDINSBURG NE
C FREDERICKSBURG NW
D HARDINSBURG SW
2 FREDERICKSBURG SW
E MILLTOWN NW
6 MILLTOWN NE
7 DEPAUW NW

INDEX TO ADJOINING 3.75 MAPS

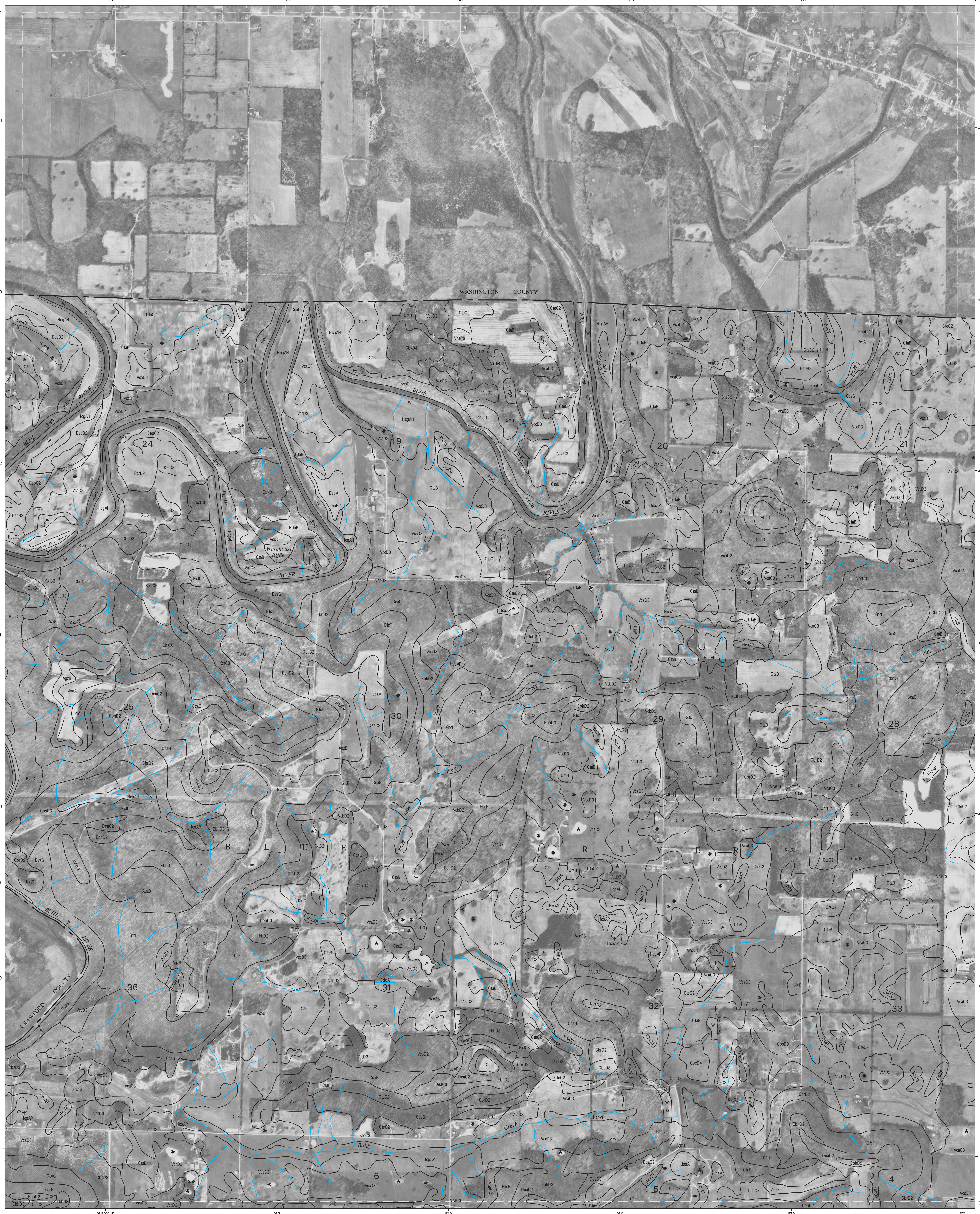
HARDINSBURG SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 1 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

86°15′00″ 86°11′15″

38°26′15″



38°22′30″ 38°22′30″

86°15′00″ ⁵66⁰⁰⁰ᵐE R. 2 E. | R. 3 E. ⁵67 ⁵68 ⁵69 ⁵70 ⁵71 86°11′15″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

A	B	C
1		3
6	7	8

A HARDINSBURG NE
B FREDERICKSBURG NW
C FREDERICKSBURG NE
1 HARDINSBURG SE
3 FREDERICKSBURG SE
6 MILLTOWN NE
7 DEPAUW NW
8 DEPAUW NE

INDEX TO ADJOINING 3.75 MAPS

FREDERICKSBURG SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 2 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
FREDERICKSBURG SE QUADRANGLE
SHEET NUMBER 3 OF 47

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

A	B	C
2		4
7	8	9

A FREDERICKSBURG NW
B FREDERICKSBURG NE
C PALMYRA NW
2 FREDERICKSBURG SW
4 PALMYRA SW
7 DEPAUW NW
8 DEPAUW NE
9 CRANDALL NW

INDEX TO ADJOINING 3.75 MAPS

FREDERICKSBURG SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 3 OF 47

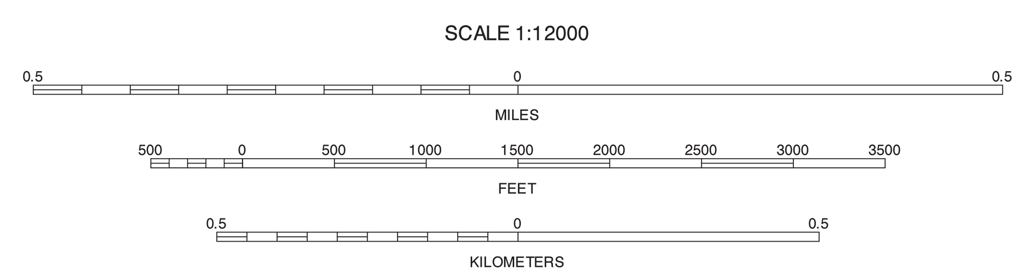
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	B	C	A FREDERICKSBURG NE B PALMYRA NW C PALMYRA NE
3		5	3 FREDERICKSBURG SE 5 PALMYRA SE
8	9	10	8 DEPAUW NE 9 CRANDALL NW 10 CRANDALL NE

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PALMYRA SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 4 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

A	B	C
4		D
9	10	E

A PALMYRA NW
B PALMYRA NE
C BORDEN NW
4 PALMYRA SW
D BORDEN SW
9 CRANDALL NW
10 CRANDALL NE
E GEORGETOWN NW

INDEX TO ADJOINING 3.75 MAPS

PALMYRA SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 5 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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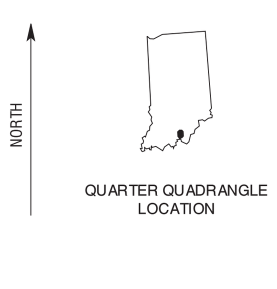
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

A	1	2
B		7
C	11	12

A HARDINSBURG SW
1 HARDINSBURG SE
2 FREDERICKSBURG SW
B MILLTOWN NW
7 DEPAUW NW
C MILLTOWN SW
11 MILLTOWN SE
12 DEPAUW SW

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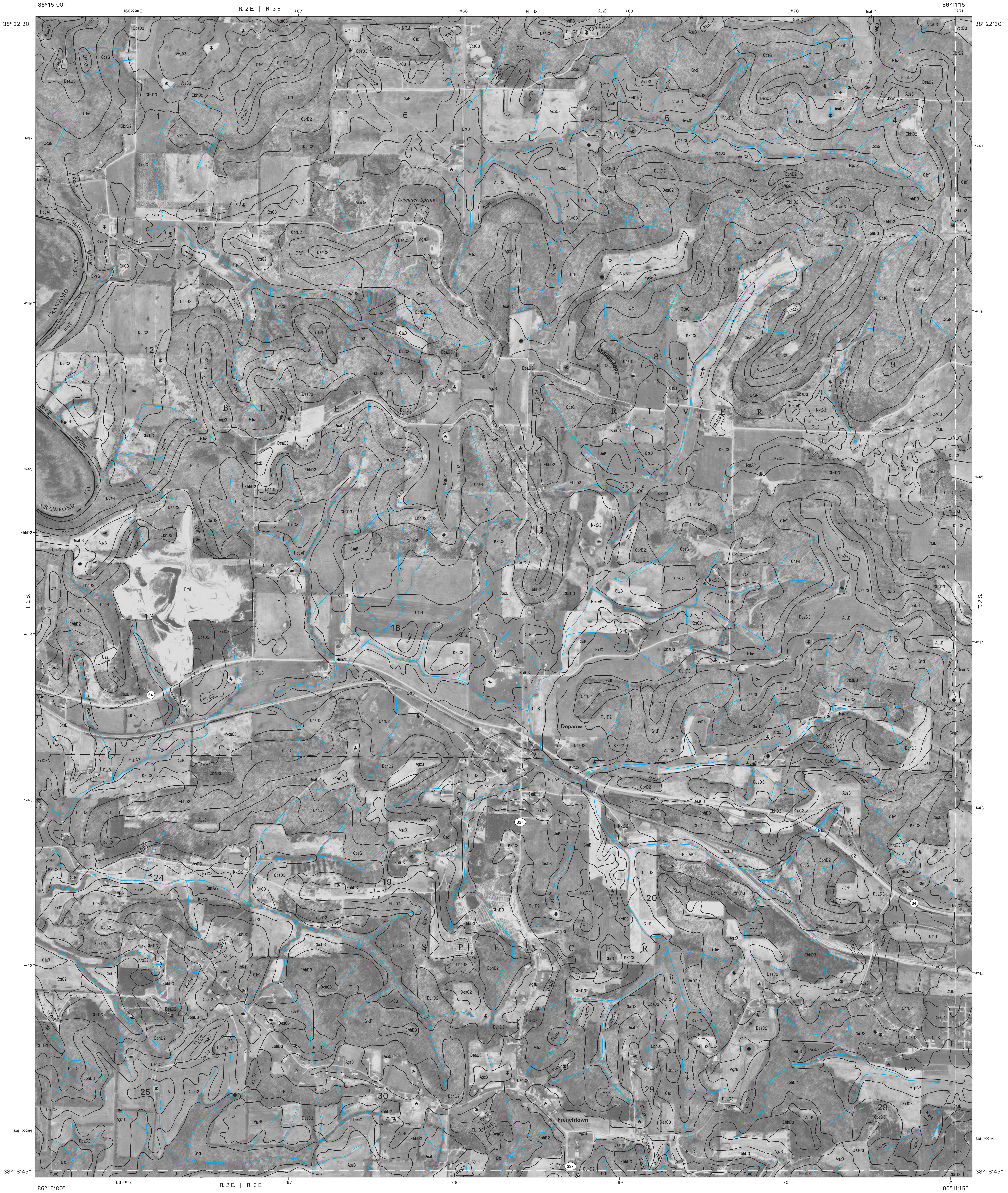
MILLTOWN NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 6 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survey. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

1	2	3
6		8
11	12	13

1 HARDINSBURG SE
2 FREDERICKSBURG SW
3 FREDERICKSBURG SE
6 MILLTOWN NE
8 DEPAUW NE
11 MILLTOWN SE
12 DEPAUW SW
13 DEPAUW SE

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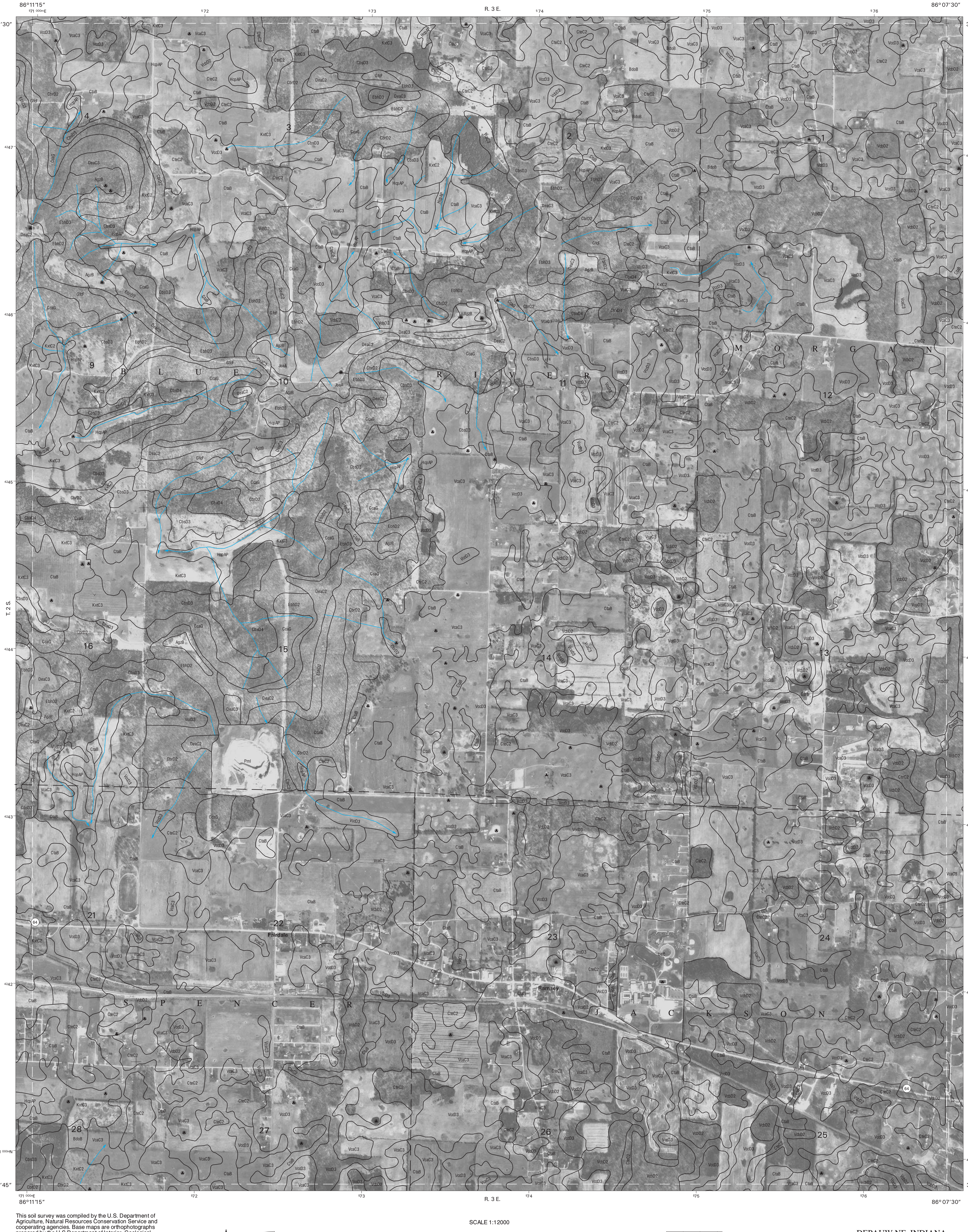
DEPAUW NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 7 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES (0.5 – 0 – 0.5)

FEET (500 – 0 – 500 – 1000 – 1500 – 2000 – 2500 – 3000 – 3500)

KILOMETERS (0.5 – 0 – 0.5)

2	3	4	2 FREDERICKSBURG SW
			3 FREDERICKSBURG SE
			4 PALMYRA SW
7		9	7 DEPAUW NW
			9 CRANDALL NW
			12 DEPAUW SW
12	13	14	13 DEPAUW SE
			14 CRANDALL SW

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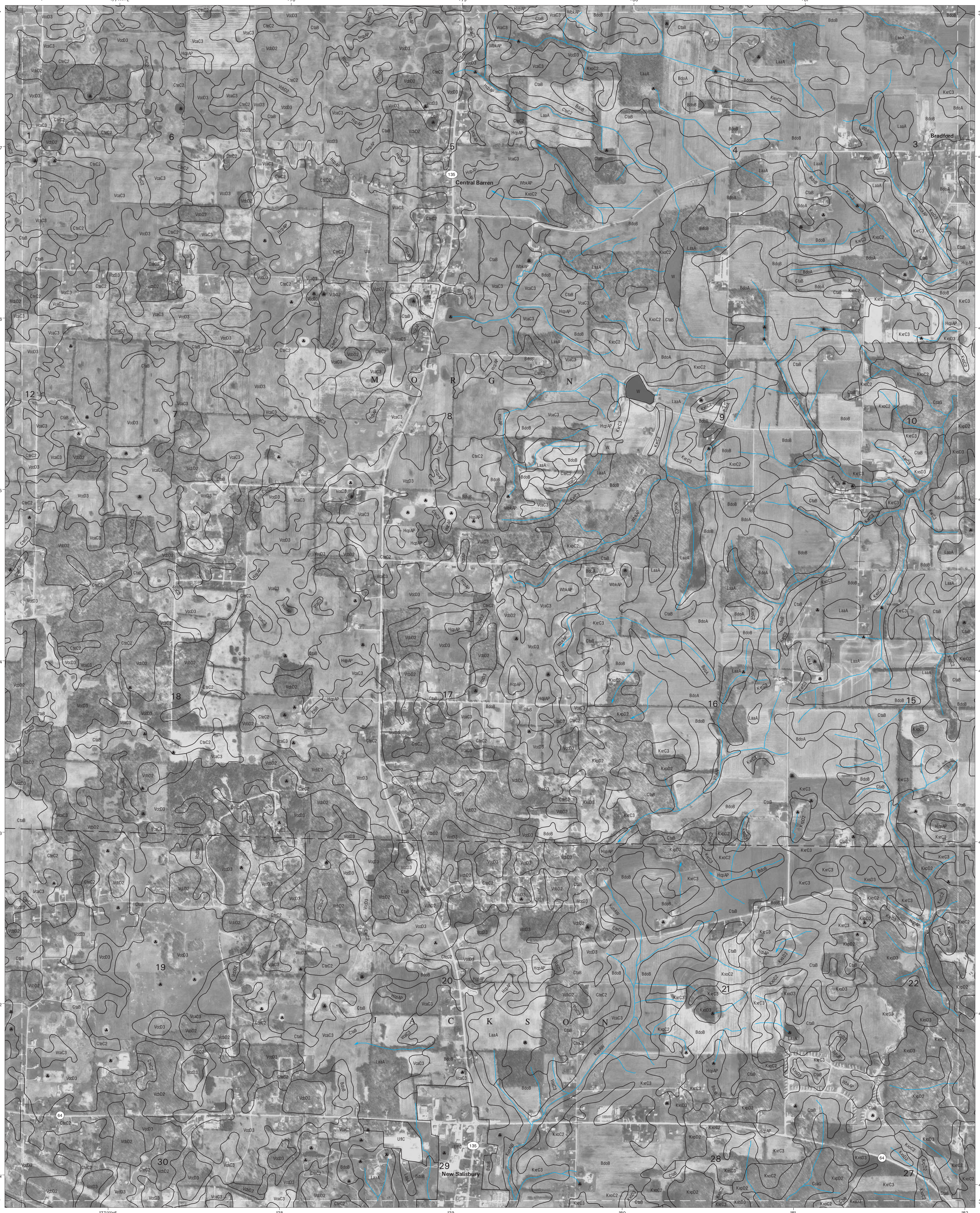
DEPAUW NE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 8 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

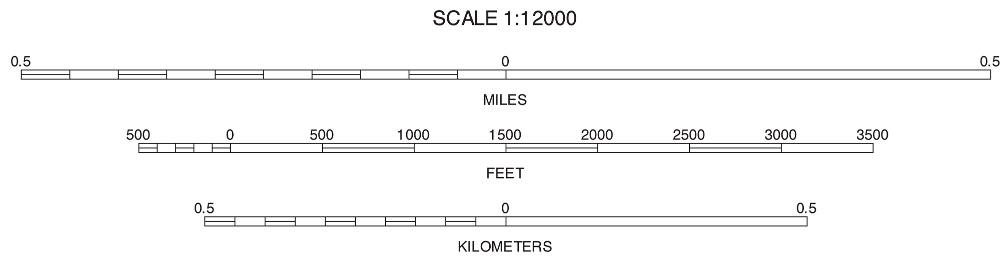


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survey. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000



3	4	5
8		10
13	14	15

3 FREDERICKSBURG SE
4 PALMYRA SW
5 PALMYRA SE
8 DEPAUW NE
10 CRANDALL NE
13 DEPAUW SE
14 CRANDALL SW
15 CRANDALL SE

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CRANDALL NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 9 OF 47

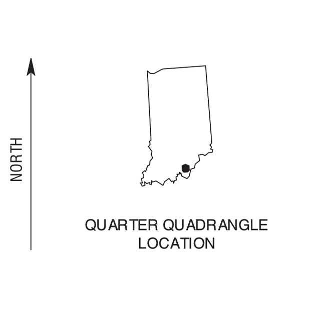
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
CRANDALL NE QUADRANGLE
SHEET NUMBER 10 OF 47

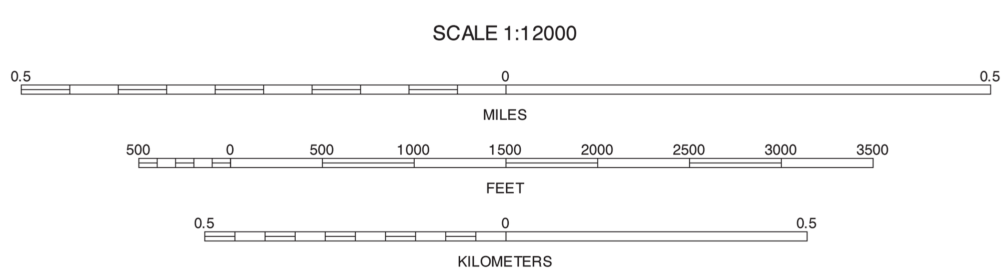
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



4	5	A
9		B
14	15	16

4 PALMYRA SW
5 PALMYRA SE
A BORDEN SW
9 CRANDALL NW
B GEORGETOWN NW
14 CRANDALL SW
15 CRANDALL SE
16 GEORGETOWN SW

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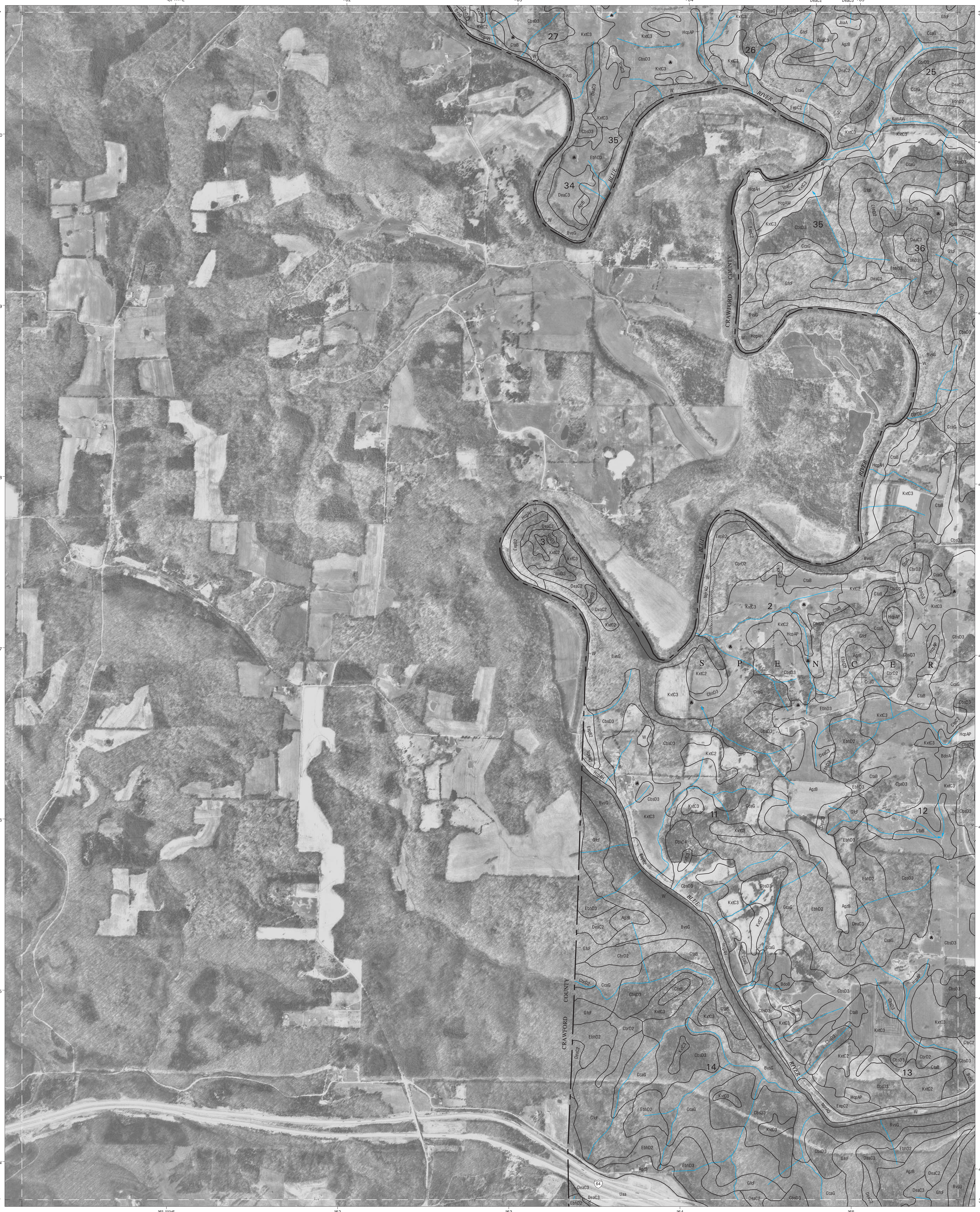
CRANDALL NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 10 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
MILLTOWN SE QUADRANGLE
SHEET NUMBER 11 OF 47



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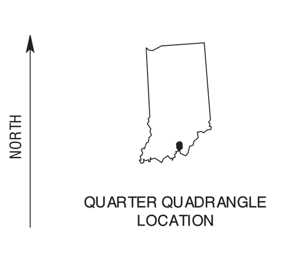
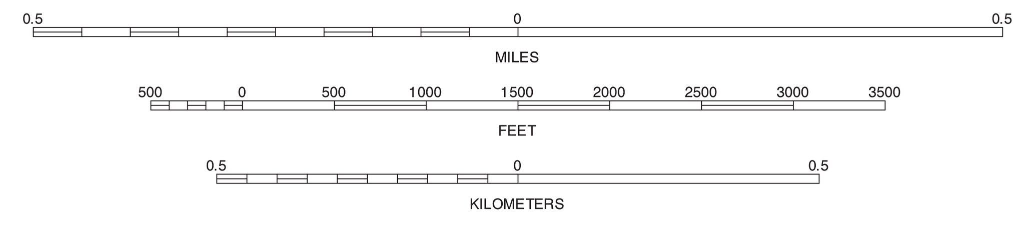
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	6	7
B		12
17	18	19

A MILLTOWN
6 MILLTOWN NE
7 DEPAUW NW
B MILLTOWN SW
12 DEPAUW SW
17 LEAVENWORTH NW
18 LEAVENWORTH NE
19 CORYDON WEST NW

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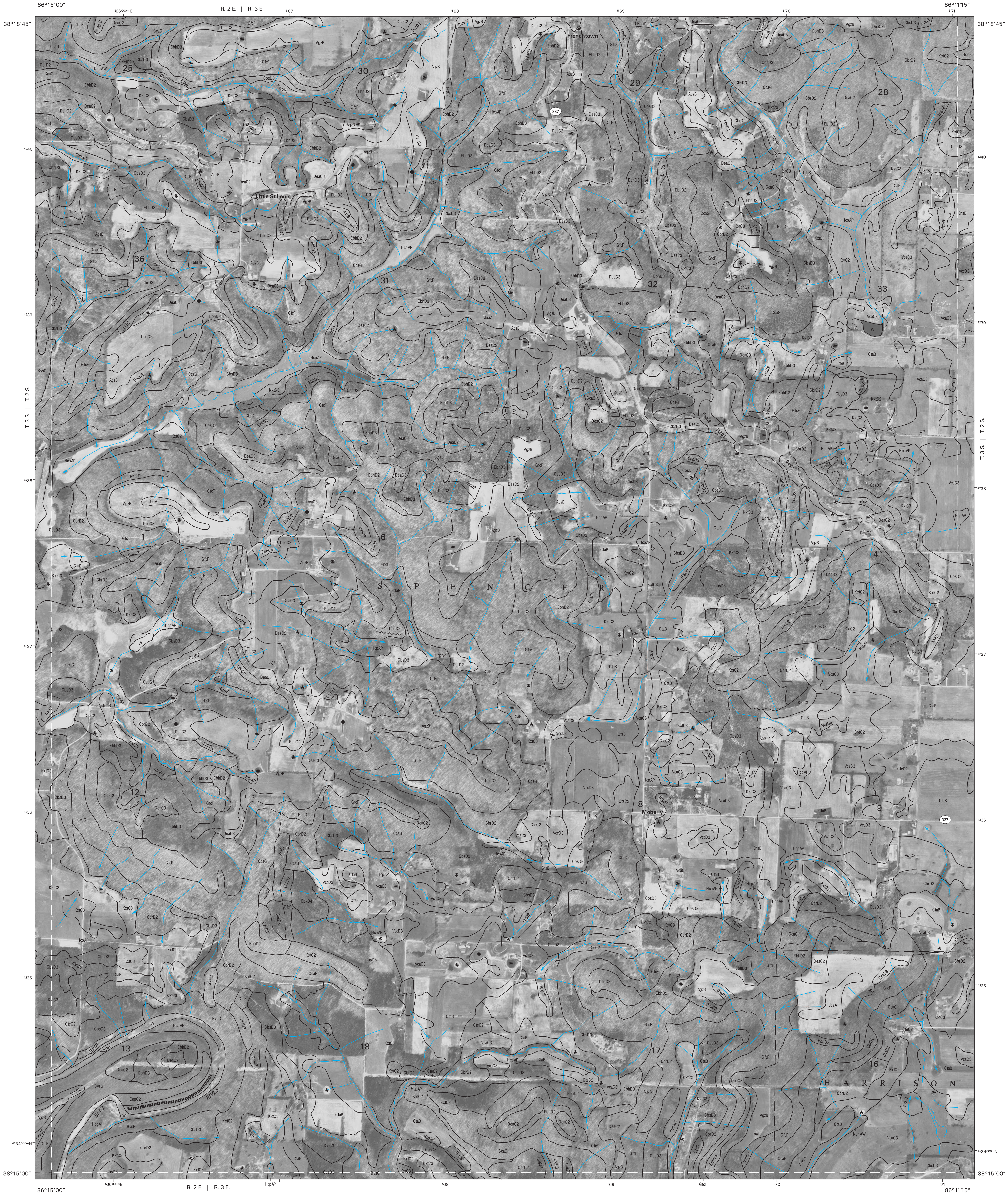
MILLTOWN SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 11 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

6	7	8
11		13
18	19	20

6 MILLTOWN NE
7 DEPAUW NW
8 DEPAUW NE
11 MILLTOWN SE
13 DEPAUW SE
18 LEAVENWORTH NE
19 CORYDON WEST NW
20 CORYDON WEST NE

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DEPAUW SW, INDIANA

3.75 MINUTE SERIES
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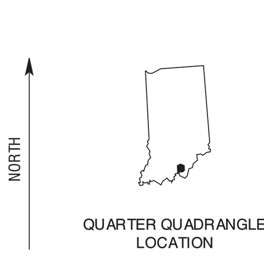
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
DEPAUW SE QUADRANGLE
SHEET NUMBER 13 OF 47

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survey. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



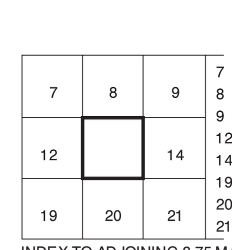
QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS



7 DEPAUW NW
8 DEPAUW NE
9 CRANDALL NW
12 DEPAUW SW
14 CRANDALL SW
19 CORYDON WEST NW
20 CORYDON WEST NE
21 CORYDON EAST NW

INDEX TO ADJOINING 3.75 MAPS

DEPAUW SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 13 OF 47

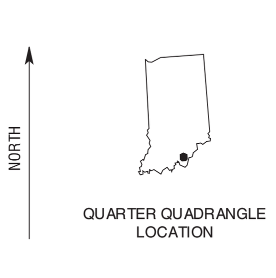
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
CRANDALL SW QUADRANGLE
SHEET NUMBER 14 OF 47

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survey. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

8	9	10
13		15
20	21	22

8 DEPAUW NE
9 CRANDALL NW
10 CRANDALL NE
13 DEPAUW SE
15 CRANDALL SE
20 CORYDON WEST NE
21 CORYDON EAST NW
22 CORYDON EAST NE

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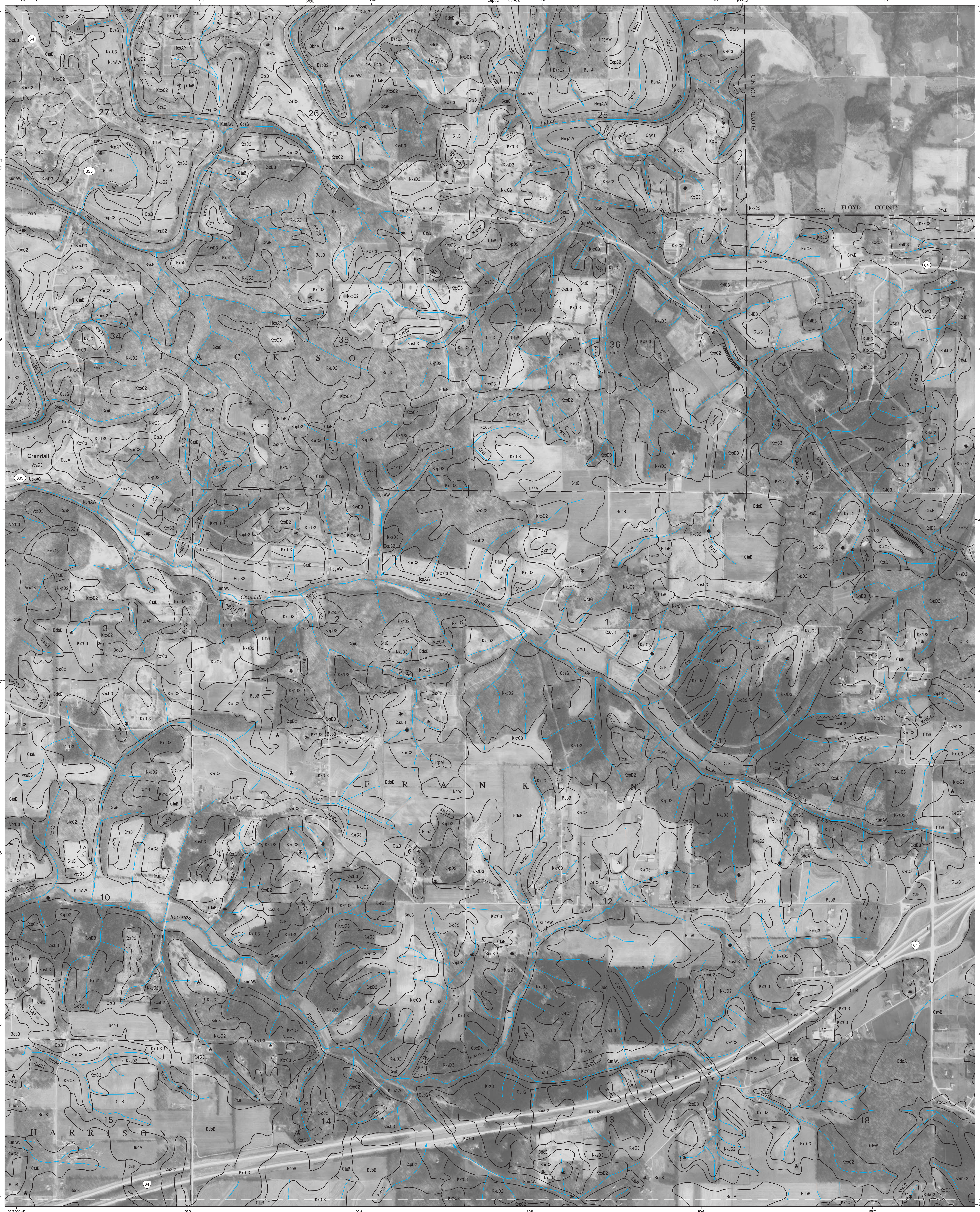
CRANDALL SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 14 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
CRANDALL SE QUADRANGLE
SHEET NUMBER 15 OF 47



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

9	10	A
14		16
21	22	23

9 CRANDALL NW
10 CRANDALL NE
A GEORGETOWN NW
14 CRANDALL SW
16 GEORGETOWN SW
21 CORYDON EAST NW
22 CORYDON EAST NE
23 LANESVILLE NW

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CRANDALL SE, INDIANA
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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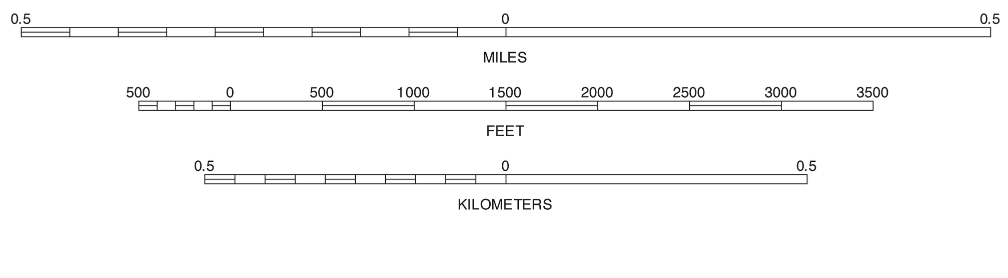
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



10	A	B
15		C
22	23	D

10 CRANDALL NE
A GEORGETOWN NW
B GEORGETOWN NE
15 CRANDALL SE
C GEORGETOWN SE
22 CORYDON EAST NE
23 LANESVILLE NW
D LANESVILLE NE

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GEORGETOWN SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 16 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

A	B	11
C		18
D	24	25

A ENGLISH SE
B MILLTOWN SW
11 MILLTOWN SE
C BEECHWOOD NE
18 LEAVENWORTH NE
D BEECHWOOD SE
24 LEAVENWORTH SW
25 LEAVENWORTH SE

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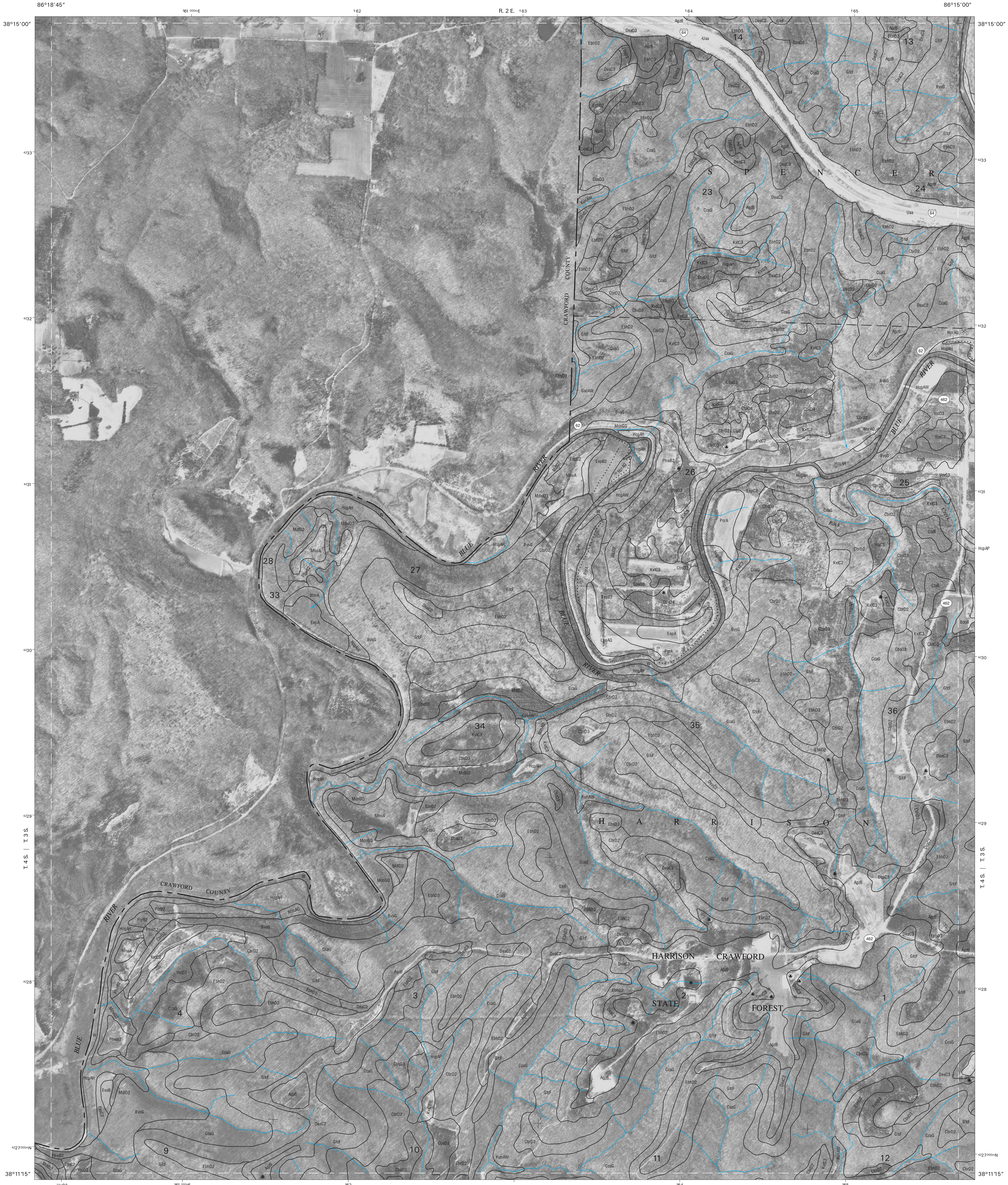
LEAVENWORTH NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 17 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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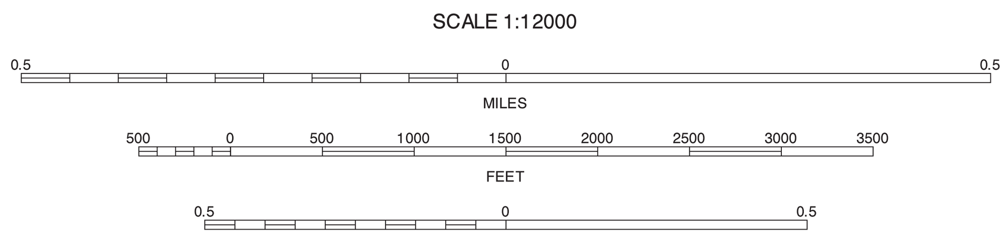
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE LOCATION

SCALE 1:12000



A	11	12
17		19
24	25	26

A MILLTOWN SW
11 MILLTOWN SE
12 DEPAUW SW
17 LEAVENWORTH NW
19 CORYDON WEST NW
24 LEAVENWORTH SW
25 LEAVENWORTH SE
26 CORYDON WEST SW

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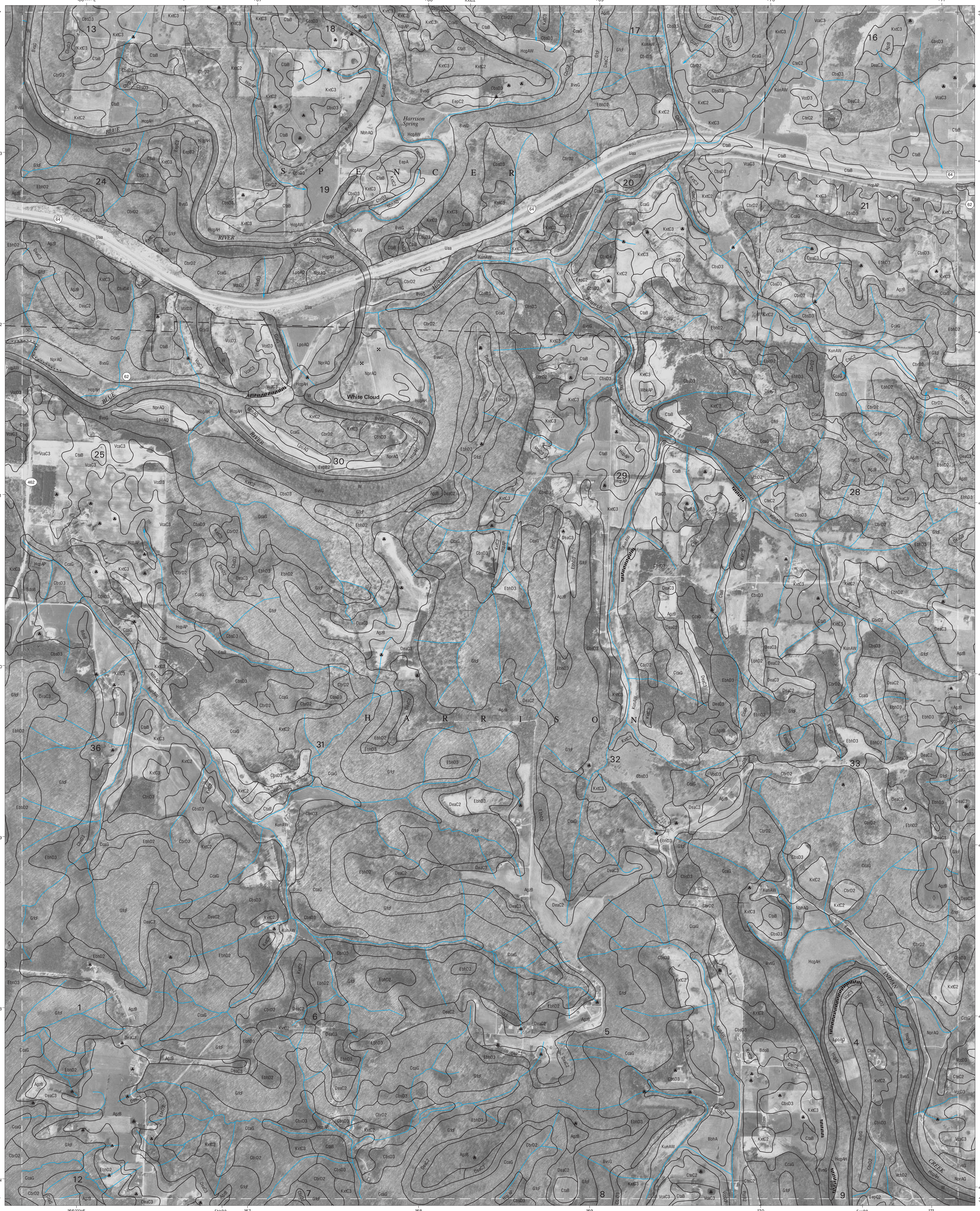
LEAVENWORTH NE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 18 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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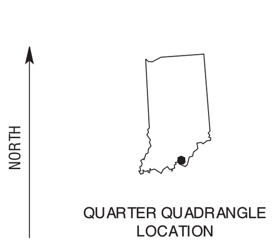
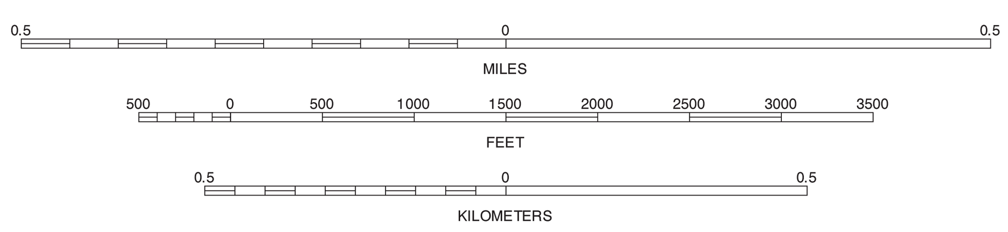
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



11	12	13
18		20
25	26	27

11 MILLTOWN SE
12 DEPAUW SW
13 DEPAUW SE
18 LEAVENWORTH NE
20 CORYDON WEST NE
25 LEAVENWORTH SE
26 CORYDON WEST SW
27 CORYDON WEST SE

INDEX TO ADJOINING 3.75 MAPS

CORYDON WEST NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 19 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

12	13	14
19		21
26	27	28

12 DEPAUW SW
13 DEPAUW SE
14 CRANDALL SW
19 CORYDON WEST NW
21 CORYDON EAST NW
26 CORYDON WEST SW
27 CORYDON WEST SE
28 CORYDON EAST SW

INDEX TO ADJOINING 3.75 MAPS

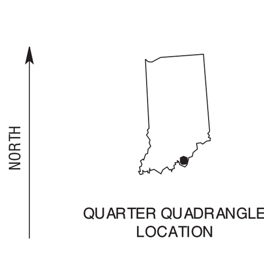
CORYDON WEST NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 20 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

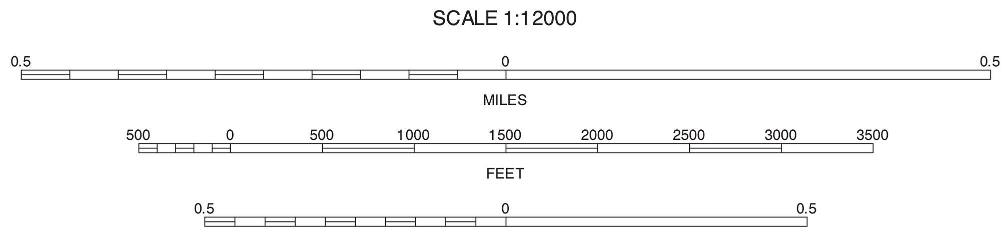
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



13	14	15
20		22
27	28	29

13 DEPAUW SE
14 CRANDALL SW
15 CRANDALL SE
20 CORYDON WEST NE
22 CORYDON EAST NE
27 CORYDON WEST SE
28 CORYDON EAST SW
29 CORYDON EAST SE

INDEX TO ADJOINING 3.75 MAPS

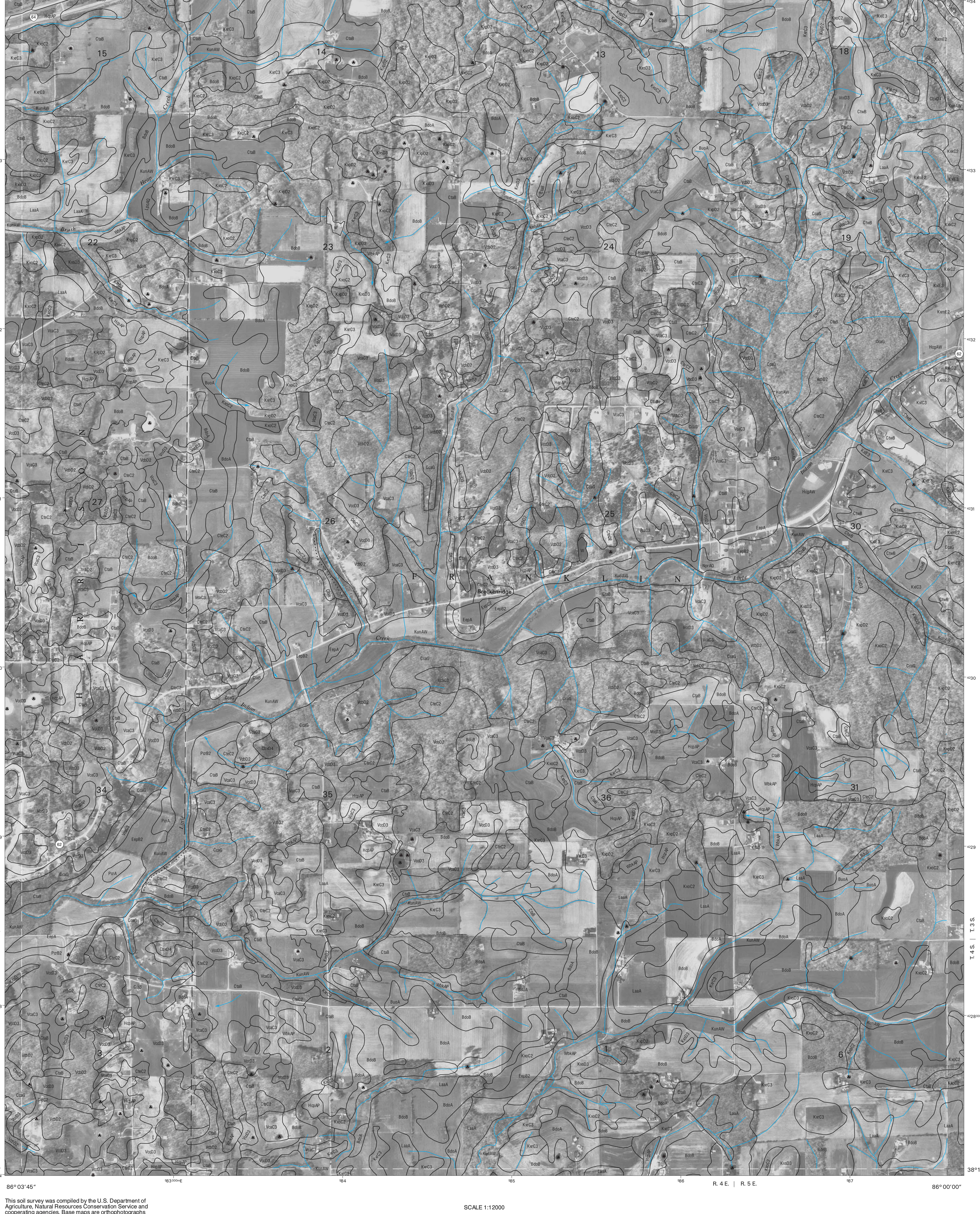
CORYDON EAST NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 21 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
CORYDON EAST NE QUADRANGLE
SHEET NUMBER 22 OF 47



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

14	15	16
21		23
28	29	30

14 CRANDALL SW
15 CRANDALL SE
16 GEORGETOWN SW
21 CORYDON EAST NW
23 LANESVILLE NW
28 CORYDON EAST SW
29 CORYDON EAST SE
30 LANESVILLE SW

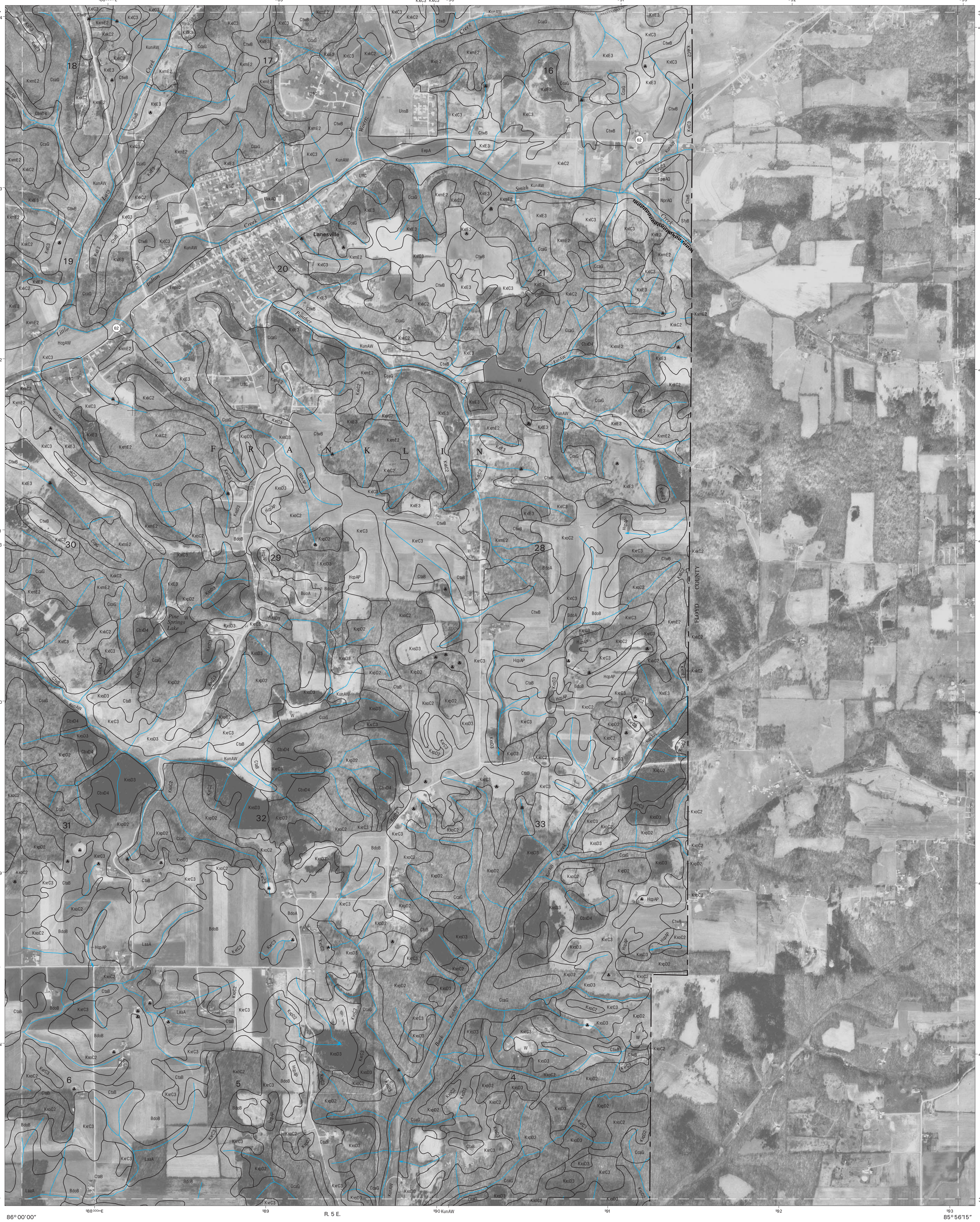
INDEX TO ADJOINING 3.75 MAPS

CORYDON EAST NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 22 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

QUARTER QUADRANGLE
LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

15	16	A
22		B
29	30	31

15 CRANDALL SE
16 GEORGETOWN SW
A GEORGETOWN SE
22 CORYDON EAST NE
B LANESVILLE NE
29 CORYDON EAST SE
30 LANESVILLE SW
31 LANESVILLE SE

INDEX TO ADJOINING 3.75 MAPS

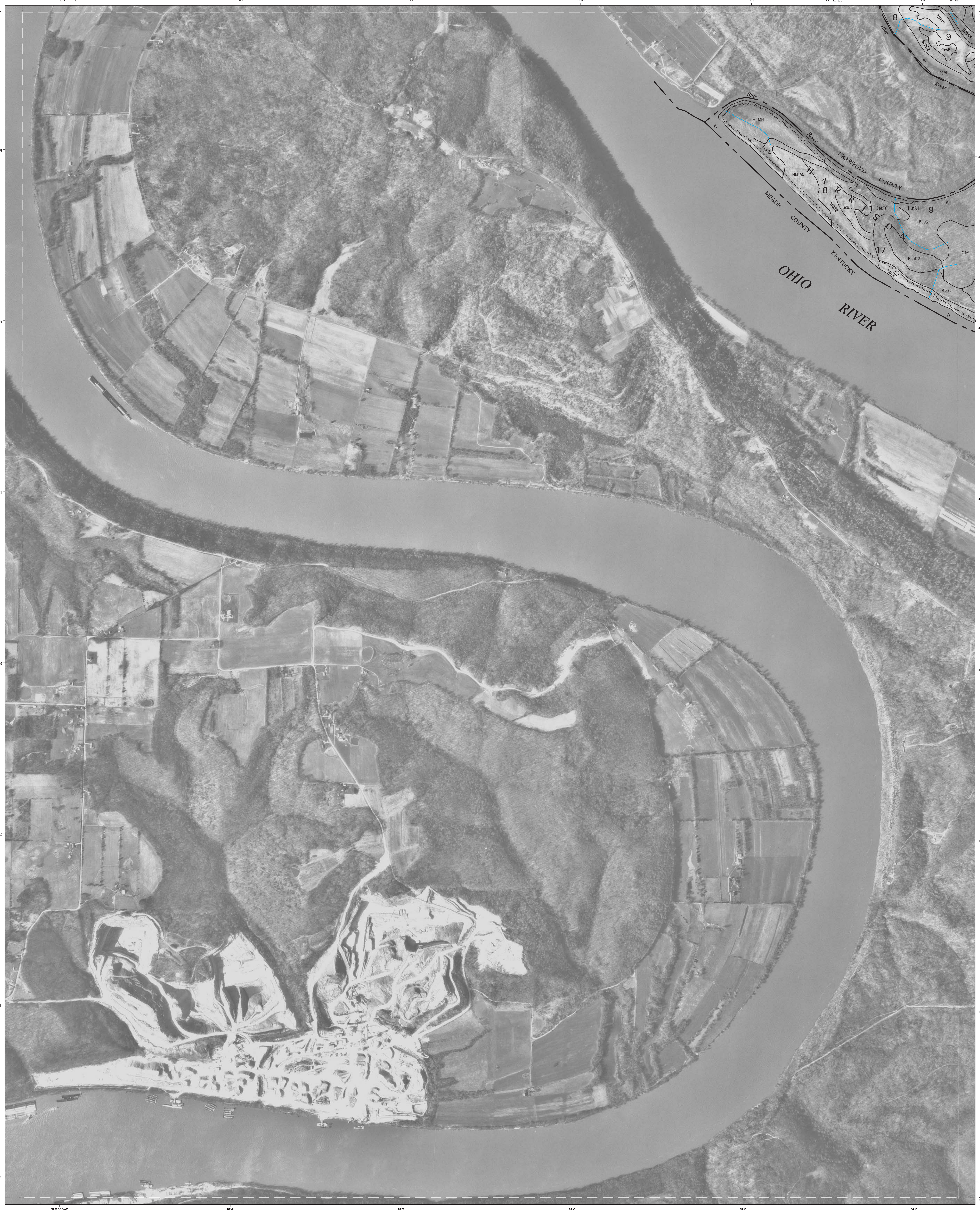
LANESVILLE NW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 23 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
LEAVENWORTH SW QUADRANGLE
SHEET NUMBER 24 OF 47



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 — 0 — 0.5

FEET: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500 — 3000 — 3500

KILOMETERS: 0.5 — 0 — 0.5

A	17	18
B		25
C	D	32

A BEECHWOOD NE
17 LEAVENWORTH NW
18 LEAVENWORTH NE
B BEECHWOOD SE
25 LEAVENWORTH SE
C ALTON NE
D NEW AMSTERDAM NW
32 NEW AMSTERDAM NE

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LEAVENWORTH SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 24 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

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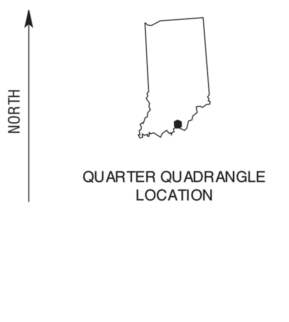
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

17	18	19
24		26
A	32	33

17 LEAVENWORTH NW
18 LEAVENWORTH NE
19 CORYDON WEST NW
24 LEAVENWORTH SW
26 CORYDON WEST SW
A NEW AMSTERDAM NW
32 NEW AMSTERDAM NE
33 MAUCKPORT NW

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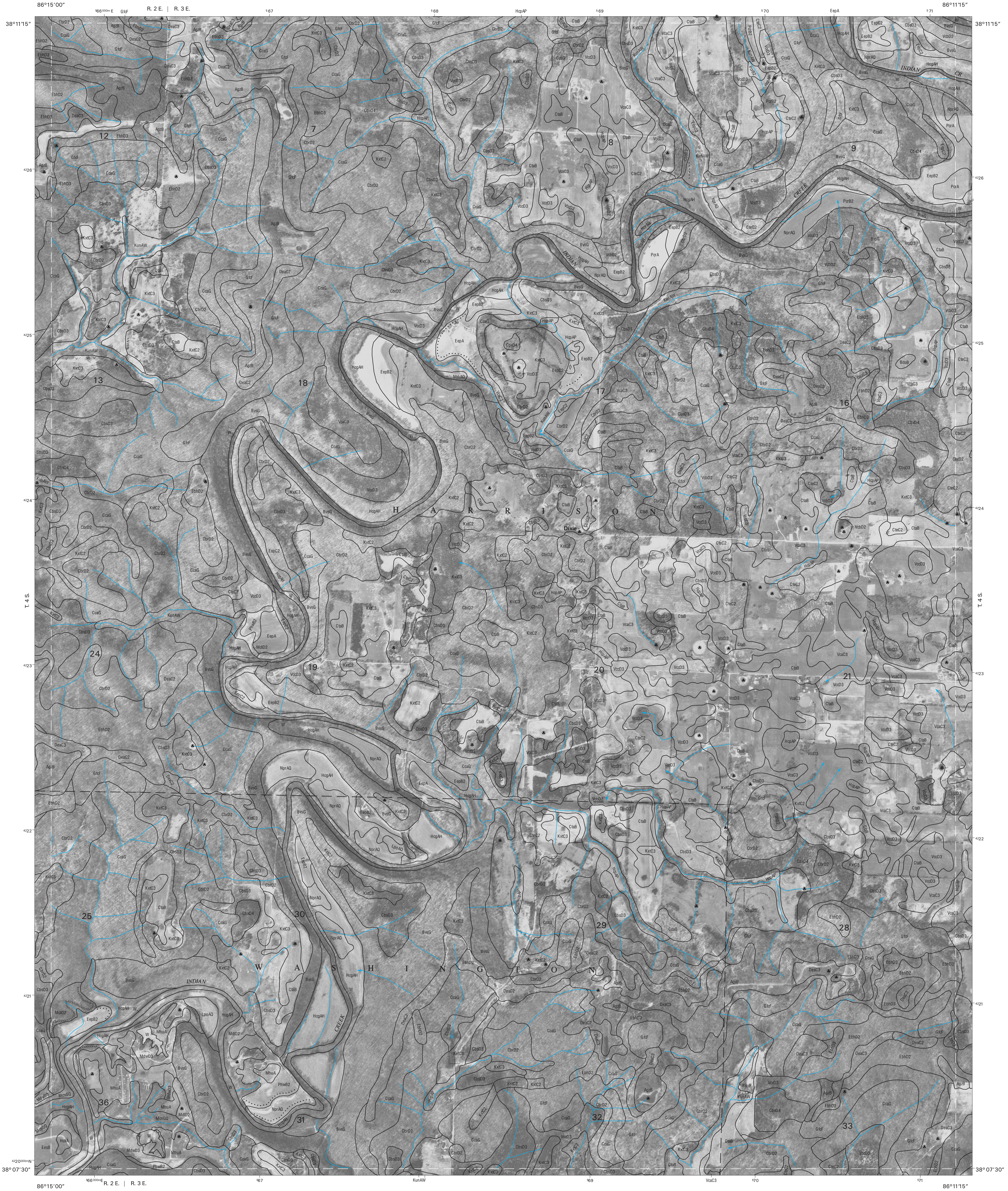
LEAVENWORTH SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 25 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
CORYDON WEST SW QUADRANGLE
SHEET NUMBER 26 OF 47



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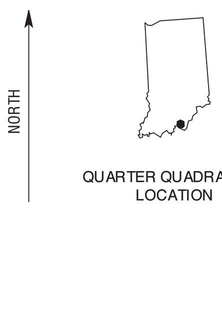
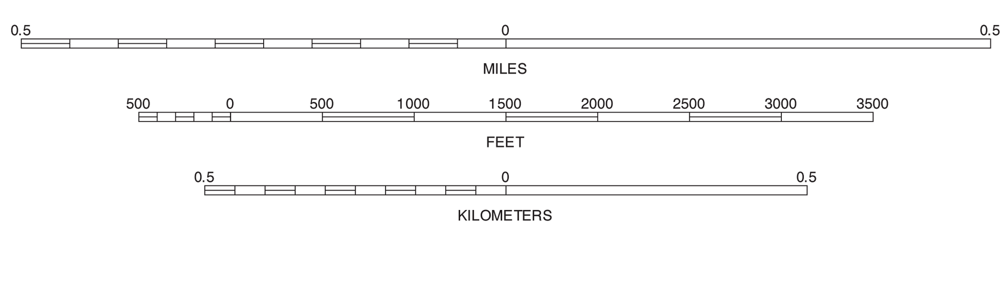
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE
LOCATION

SCALE 1:12000



18	19	20	18 LEAVENWORTH NE
25		27	19 CORYDON WEST NW
32	33	34	20 CORYDON WEST NE

25 LEAVENWORTH SE
27 CORYDON WEST SE
32 NEW AMSTERDAM NE
33 MAUCKPORT NW
34 MAUCKPORT NE

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CORYDON WEST SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 26 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
CORYDON WEST SE QUADRANGLE
SHEET NUMBER 27 OF 47

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

19	20	21
26		28
33	34	35

19 CORYDON WEST NW
20 CORYDON WEST NE
21 CORYDON EAST NW
26 CORYDON WEST SW
28 CORYDON EAST SW
33 MAUCKPORT NW
34 MAUCKPORT NE
35 LACONIA NW

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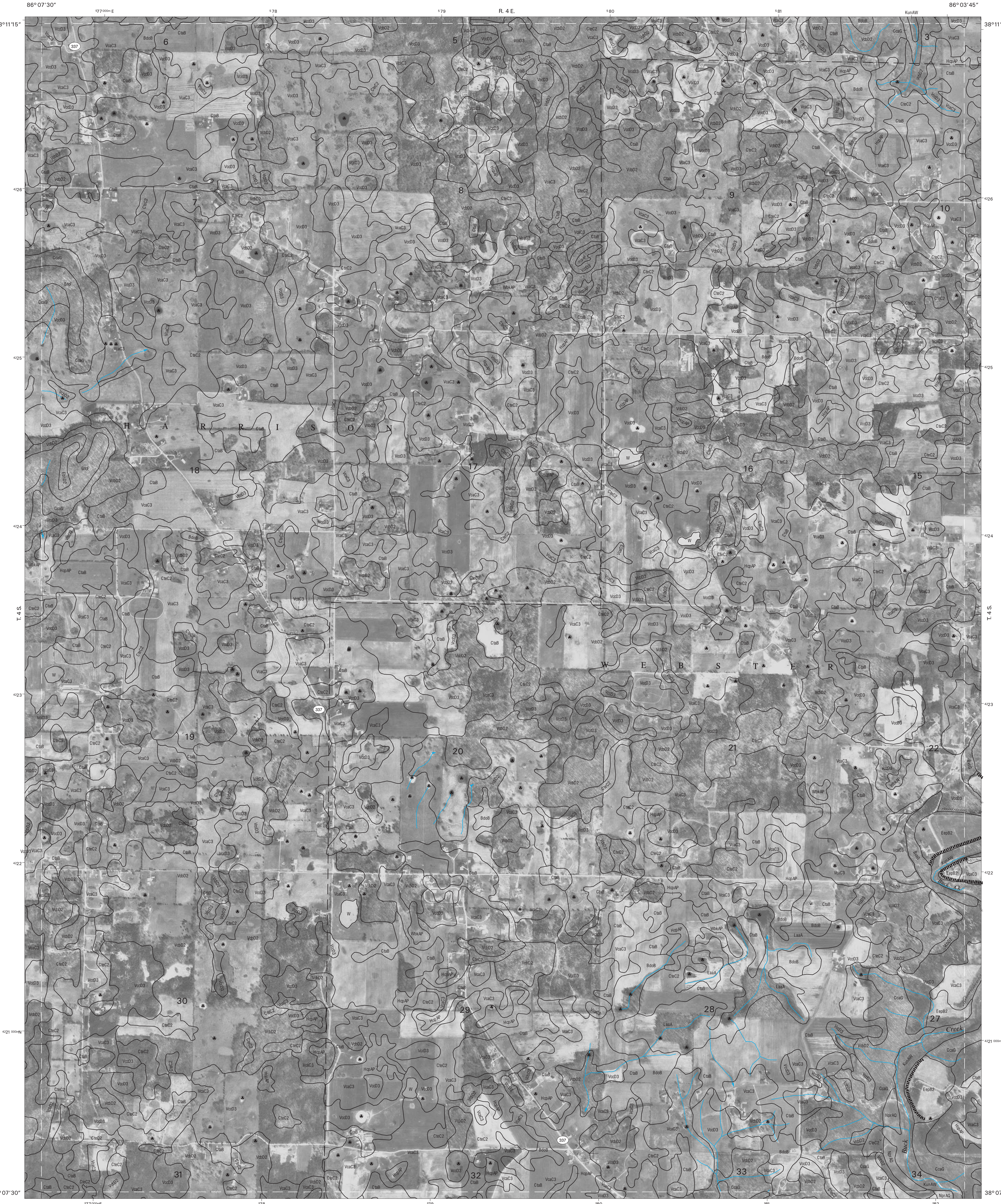
CORYDON WEST SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 27 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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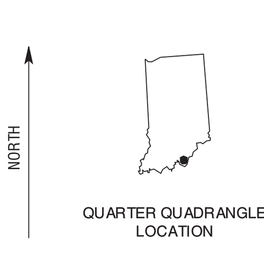
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

20	21	22
27		29
34	35	36

20 CORYDON WEST NE
21 CORYDON EAST NW
22 CORYDON EAST NE
27 CORYDON WEST SE
29 CORYDON EAST SE
34 MAUCKPORT NE
35 LACONIA NW
36 LACONIA NE

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CORYDON EAST SW, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 28 OF 47

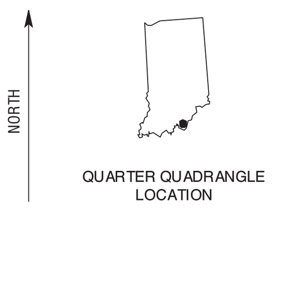
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
CORYDON EAST SE QUADRANGLE
SHEET NUMBER 29 OF 47

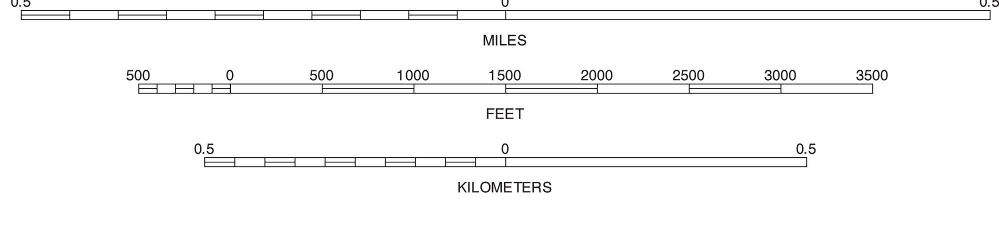
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survey. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



21	22	23
28		30
35	36	37

21 CORYDON EAST NW
22 CORYDON EAST NE
23 LANESVILLE NW
28 CORYDON EAST SW
30 LANESVILLE SW
35 LACONIA NW
36 LACONIA NE
37 KOSMOSDALE NW

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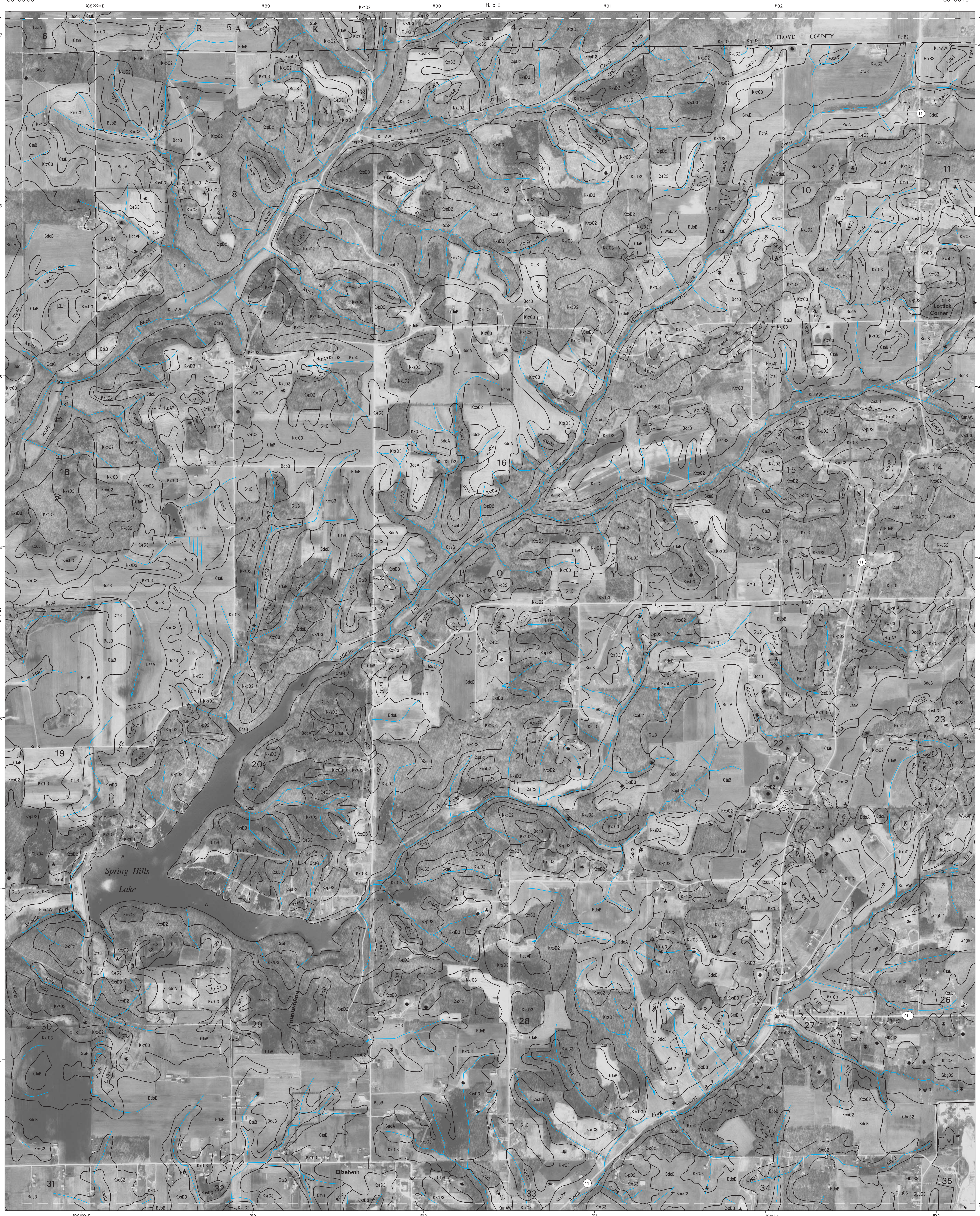
CORYDON EAST SE, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 29 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
LANESVILLE SW QUADRANGLE
SHEET NUMBER 30 OF 47



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

22	23	A
29		31
36	37	38

22 CORYDON EAST NE
23 LANESVILLE NW
A LANESVILLE NE
29 CORYDON EAST SE
31 LANESVILLE SE
36 LACONIA NE
37 KOSMOSDALE NW
38 KOSMOSDALE NE

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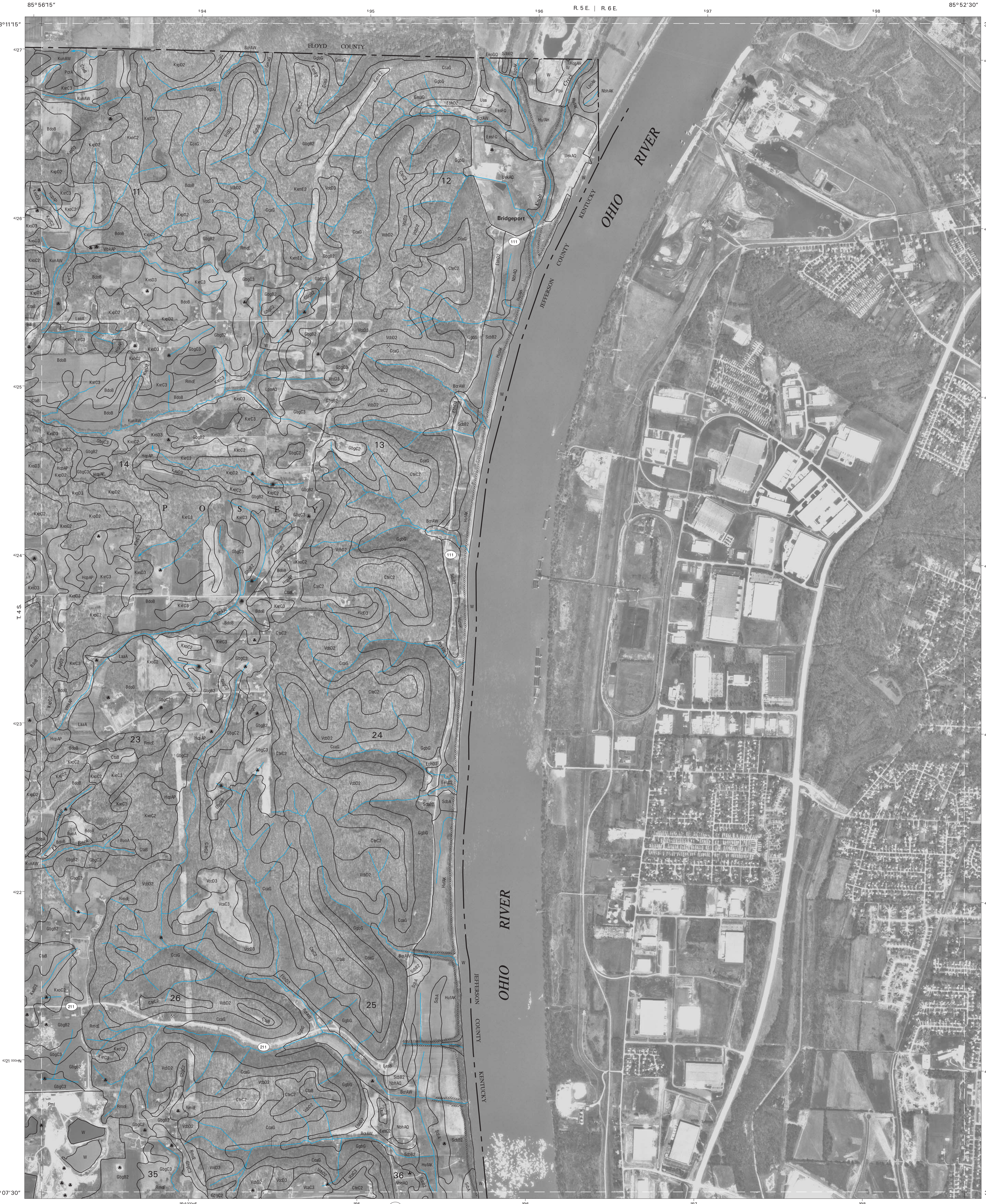
LANESVILLE SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 30 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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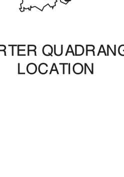
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

23	A	B
30		C
37	38	D

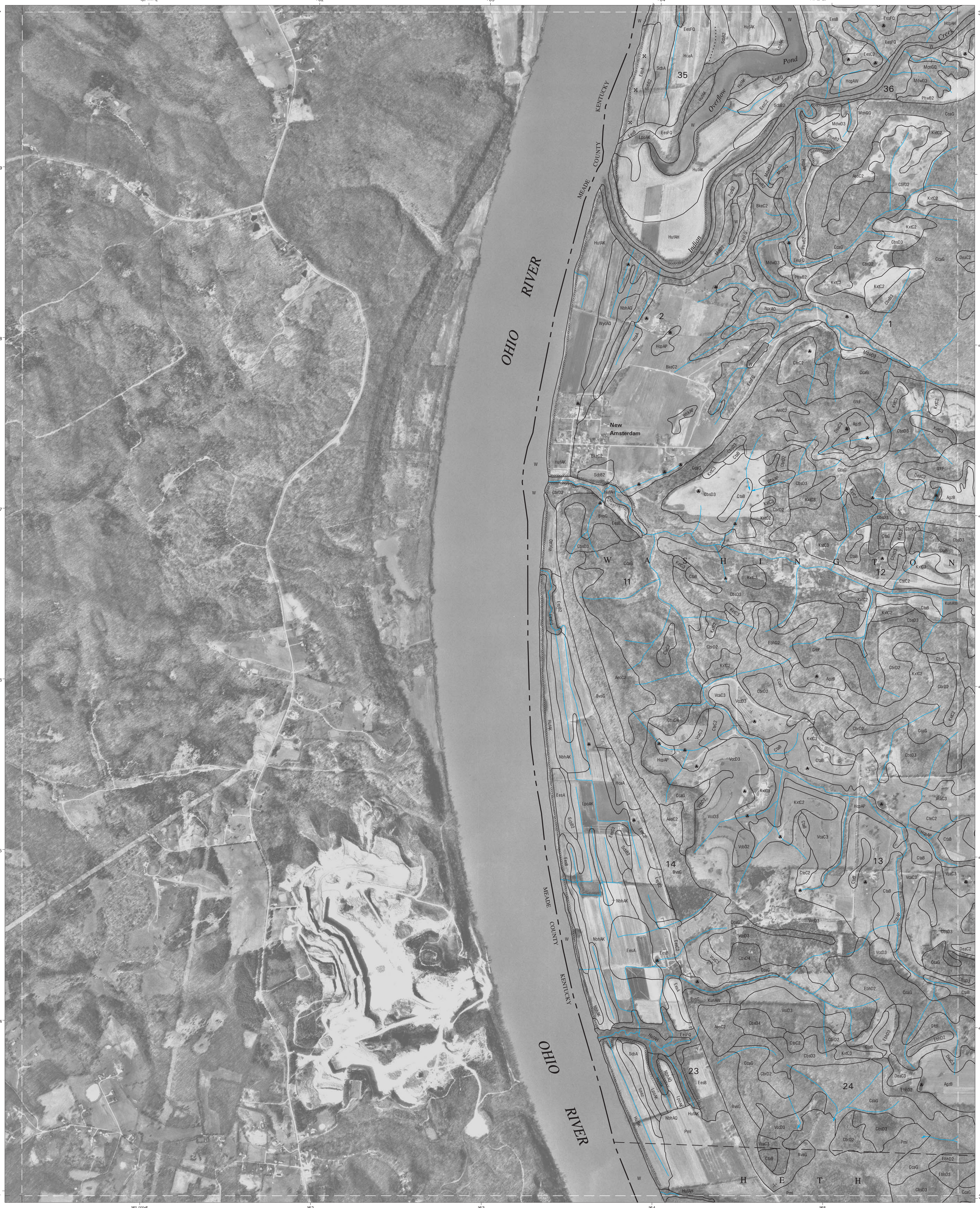
23 LANESVILLE NW
A LANESVILLE NE
B LOUISVILLE WEST NW
30 LANESVILLE SW
C LOUISVILLE WEST SW
37 KOSMOSDALE NW
38 KOSMOSDALE NE
D VALLEY STATION NW

INDEX TO ADJOINING 3.75 MAPS

LANESVILLE SE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 31 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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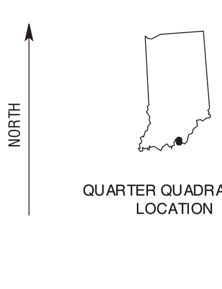
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

24	25	26
A		33
B	39	40

24 LEAVENWORTH SW
25 LEAVENWORTH SE
26 CORYDON WEST SW
A NEW AMSTERDAM NW
33 MAUCKPORT NW
B NEW AMSTERDAM SW
39 NEW AMSTERDAM SE
40 MAUCKPORT SW

INDEX TO ADJOINING 3.75 MAPS

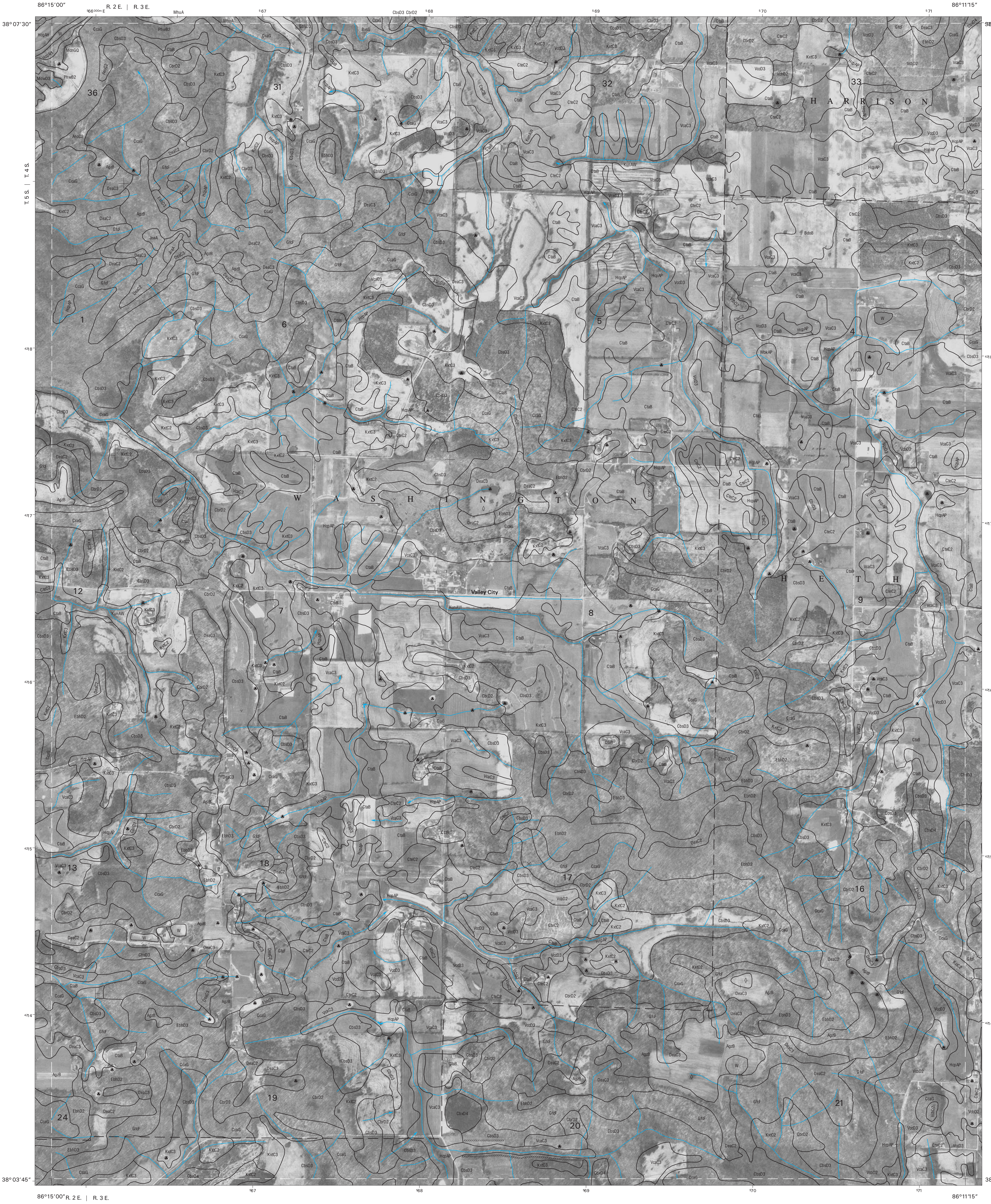
NEW AMSTERDAM NE, INDIANA

3.75 MINUTE SERIES
SHEET NUMBER 32 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
MAUCKPORT NW QUADRANGLE
SHEET NUMBER 33 OF 47



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

25	26	27
32		34
39	40	41

25 LEAVENWORTH SE
26 CORYDON WEST SW
27 CORYDON WEST SE
32 NEW AMSTERDAM NE
34 MAUCKPORT NE
39 NEW AMSTERDAM SE
40 MAUCKPORT SW
41 MAUCKPORT SE

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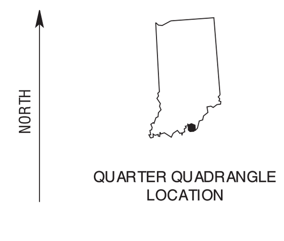
MAUCKPORT NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 33 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

26	27	28
33		35
40	41	42

26 CORYDON WEST SW
27 CORYDON WEST SE
28 CORYDON EAST SW
33 MAUCKPORT NW
35 LACONIA NW
40 MAUCKPORT SW
41 MAUCKPORT SE
42 LACONIA SW

INDEX TO ADJOINING 3.75 MAPS

MAUCKPORT NE, INDIANA
3.75 MINUTE SERIES
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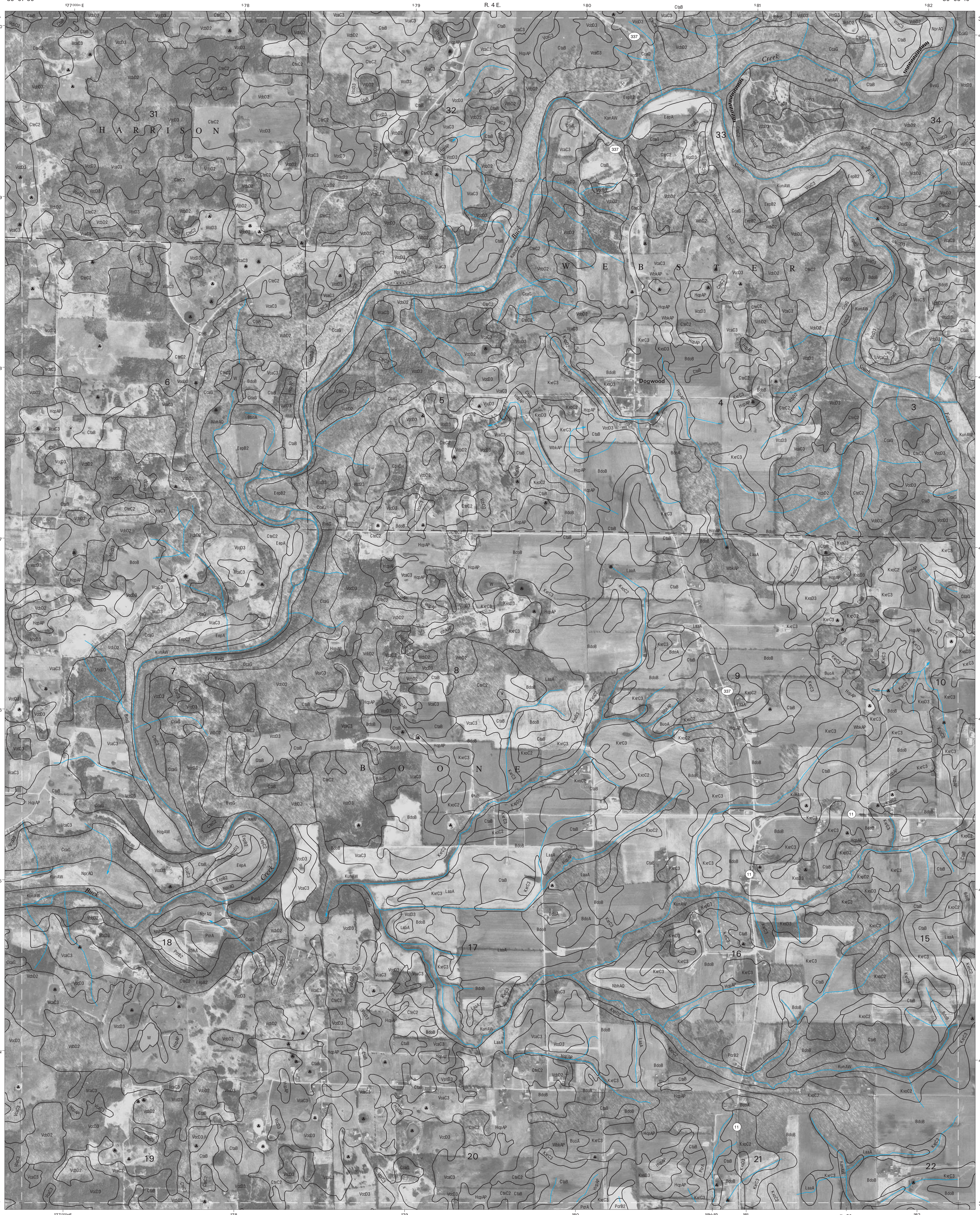
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
LACONIA NW QUADRANGLE
SHEET NUMBER 35 OF 47



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

27	28	29
34		36
41	42	43

27 CORYDON WEST SE
28 CORYDON EAST SW
29 CORYDON EAST SE
34 MAUCKPORT NE
36 LACONIA NE
41 MAUCKPORT SE
42 LACONIA SW
43 LACONIA SE

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LACONIA NW, INDIANA

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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HARRISON COUNTY, INDIANA
LACONIA NE QUADRANGLE
SHEET NUMBER 36 OF 47

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

28	29	30
35		37
42	43	44

28 CORYDON EAST SW
29 CORYDON EAST SE
30 LANESVILLE SW
35 LACONIA NW
37 KOSMOSDALE NW
42 LACONIA SW
43 LACONIA SE
44 KOSMOSDALE SW

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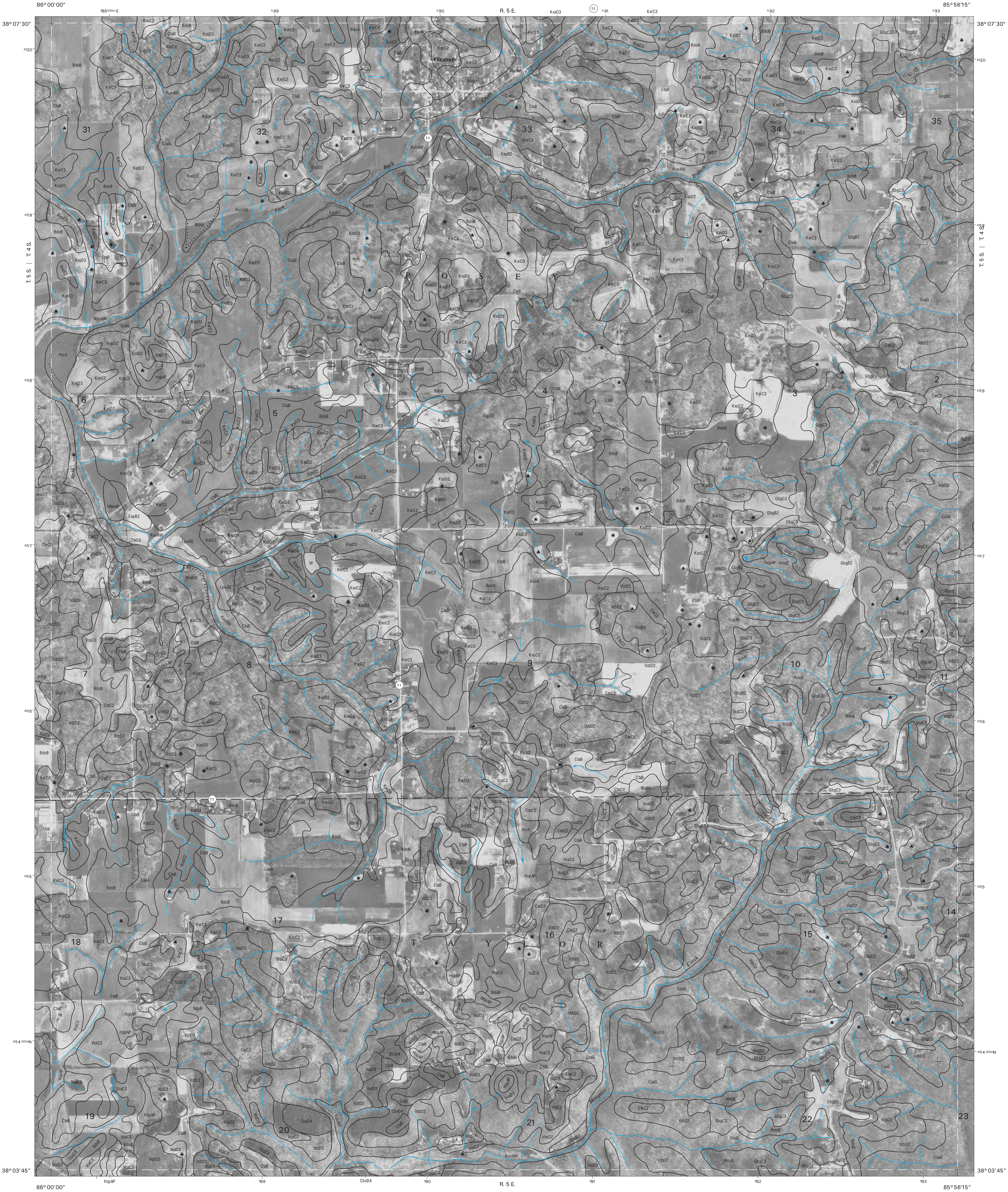
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
KOSMOSDALE NW QUADRANGLE
SHEET NUMBER 37 OF 47



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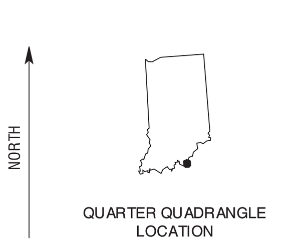
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

29	30	31
36		38
43	44	45

29 CORYDON EAST SE
30 LANESVILLE SW
31 LANESVILLE SE
36 LACONIA NE
38 KOSMOSDALE NE
43 LACONIA SE
44 KOSMOSDALE SW
45 KOSMOSDALE SE

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KOSMOSDALE NW, INDIANA
3.75 MINUTE SERIES
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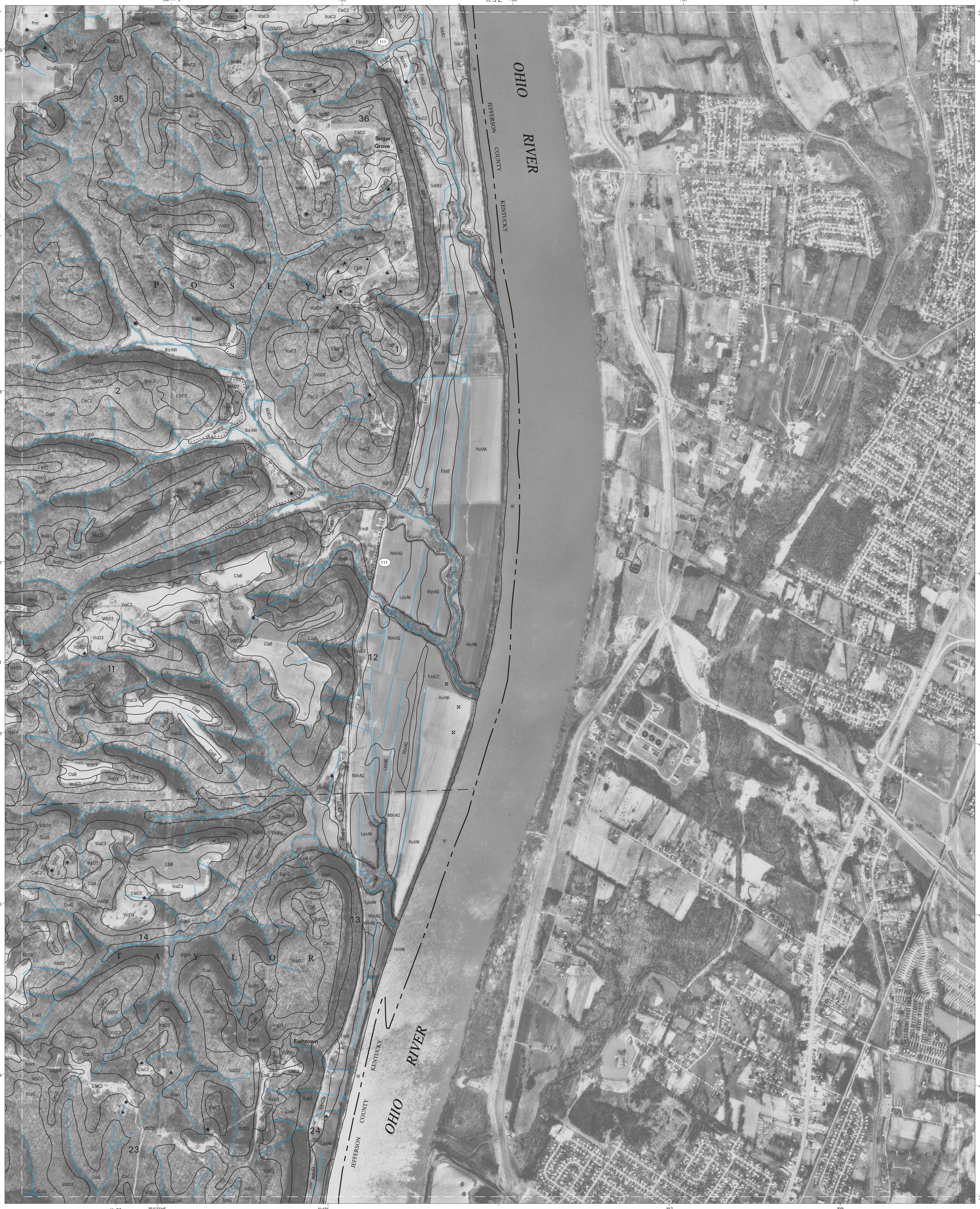
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
KOSMOSDALE NE QUADRANGLE
SHEET NUMBER 38 OF 47



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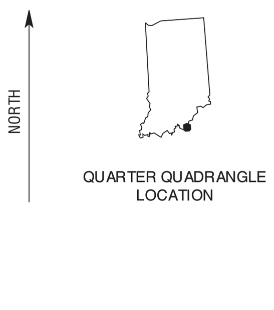
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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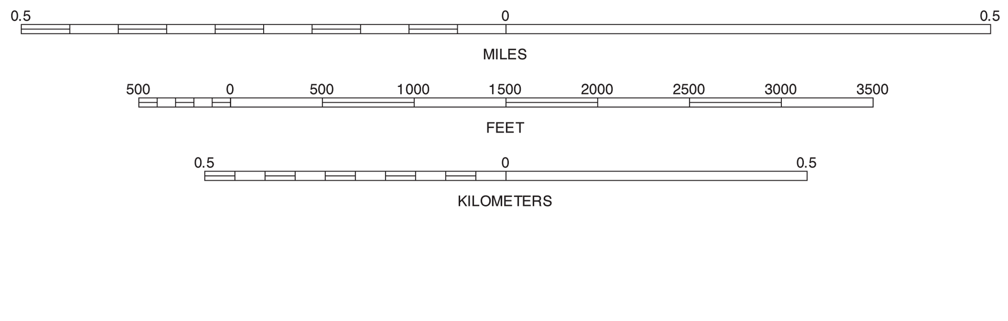

30	31	A
37		B
44	45	C

30 LANESVILLE SW
31 LANESVILLE SE
A LOUISVILLE WEST SW
37 KOSMOSDALE NW
B VALLEY STATION NW
44 KOSMOSDALE SW
45 KOSMOSDALE SE
C VALLEY STATION SW

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KOSMOSDALE NE, INDIANA
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UNITED STATES
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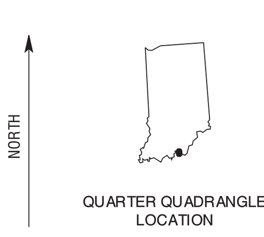
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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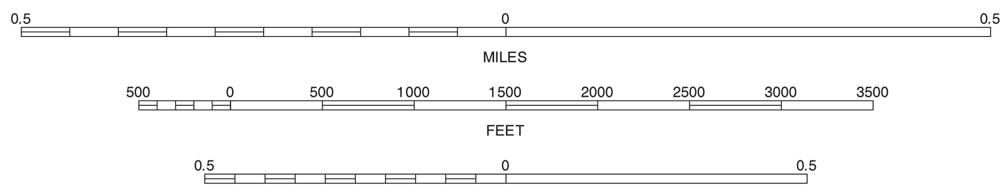

A	32	33
B		40
C	D	E

A NEW AMSTERDAM NW
32 NEW AMSTERDAM NE
33 MAUCKPORT NW
B NEW AMSTERDAM SW
40 MAUCKPORT SW
C IRVINGTON NW
D IRVINGTON NE
E GUSTON NW

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NEW AMSTERDAM SE, INDIANA

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

32	33	34
39		41
A	B	C

32 NEW AMSTERDAM NE
33 MAUCKPORT NW
34 MAUCKPORT NE
39 NEW AMSTERDAM SE
41 MAUCKPORT SE
A IRVINGTON NE
B GUSTON NW
C GUSTON NE

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MAUCKPORT SW, INDIANA

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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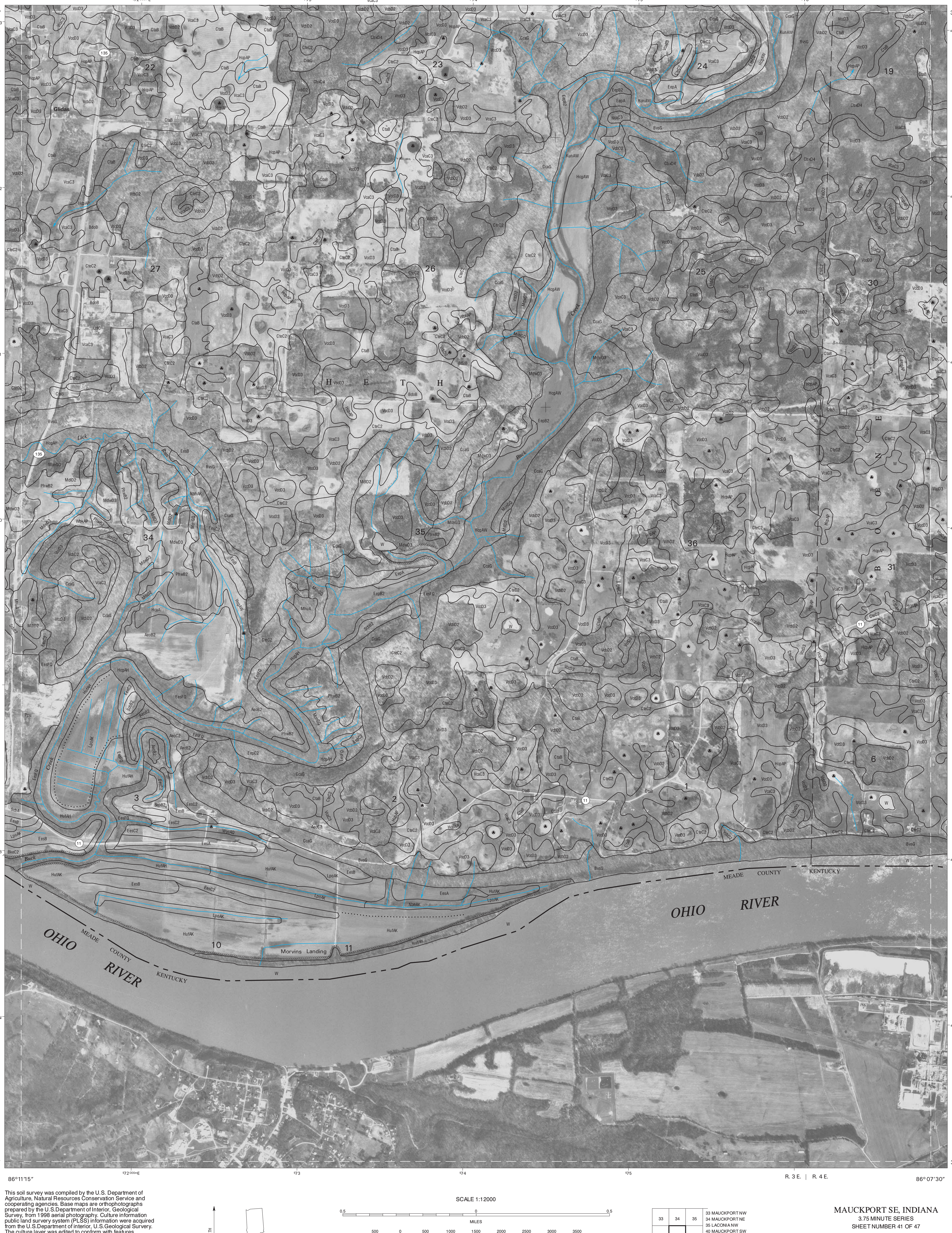
HARRISON COUNTY, INDIANA
MAUCKPORT SE QUADRANGLE
SHEET NUMBER 41 OF 47



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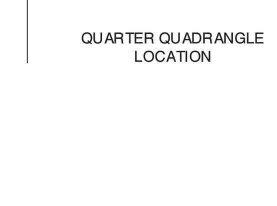
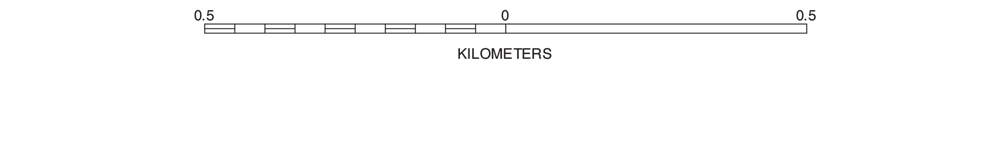
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000



33	34	35
40		42
A	B	46

33 MAUCKPORT NW
34 MAUCKPORT NE
35 LACONIA NW
40 MAUCKPORT SW
42 LACONIA SW
A GUSTON NW
B GUSTON NE
46 ROCK HAVEN NW

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MAUCKPORT SE, INDIANA
3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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HARRISON COUNTY, INDIANA
LACONIA SW QUADRANGLE
SHEET NUMBER 42 OF 47

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

34	35	36
41		43
A	46	47

34 MAUCKPORT NE
35 LACONIA NW
36 LACONIA NE
41 MAUCKPORT SE
43 LACONIA SE
A GUSTON NE
46 ROCK HAVEN NW
47 ROCK HAVEN NE

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
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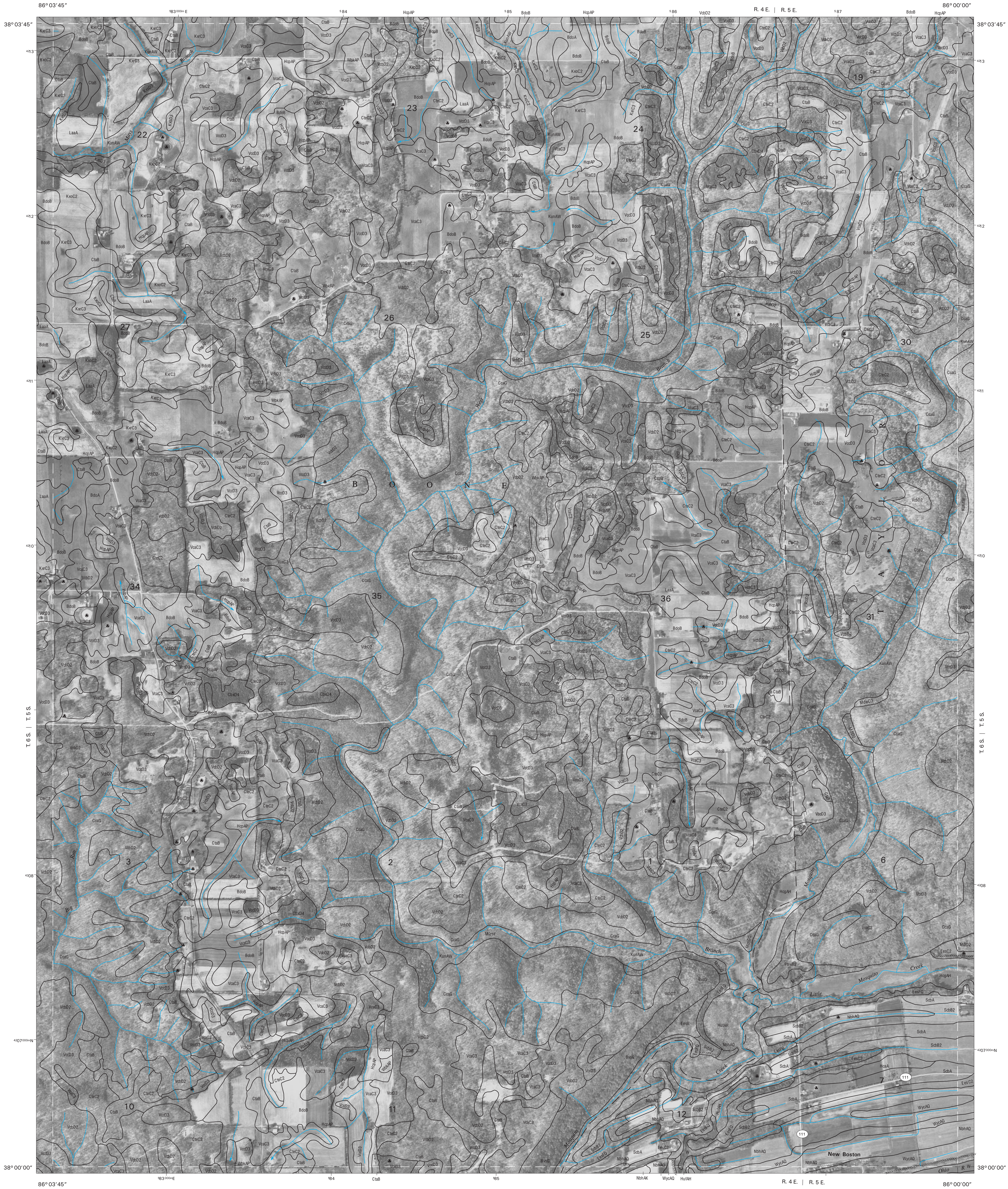
HARRISON COUNTY, INDIANA
LACONIA SE QUADRANGLE
SHEET NUMBER 43 OF 47



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5
MILES

500 0 500 1000 1500 2000 2500 3000 3500
FEET

0.5 0 0.5
KILOMETERS

35	36	37
42		44
46	47	A

35 LACONIA NW
36 LACONIA NE
37 KOSMOSDALE NW
42 LACONIA SW
44 KOSMOSDALE SW
46 ROCK HAVEN NW
47 ROCK HAVEN NE
A FORT KNOX NW

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LACONIA SE, INDIANA

3.75 MINUTE SERIES
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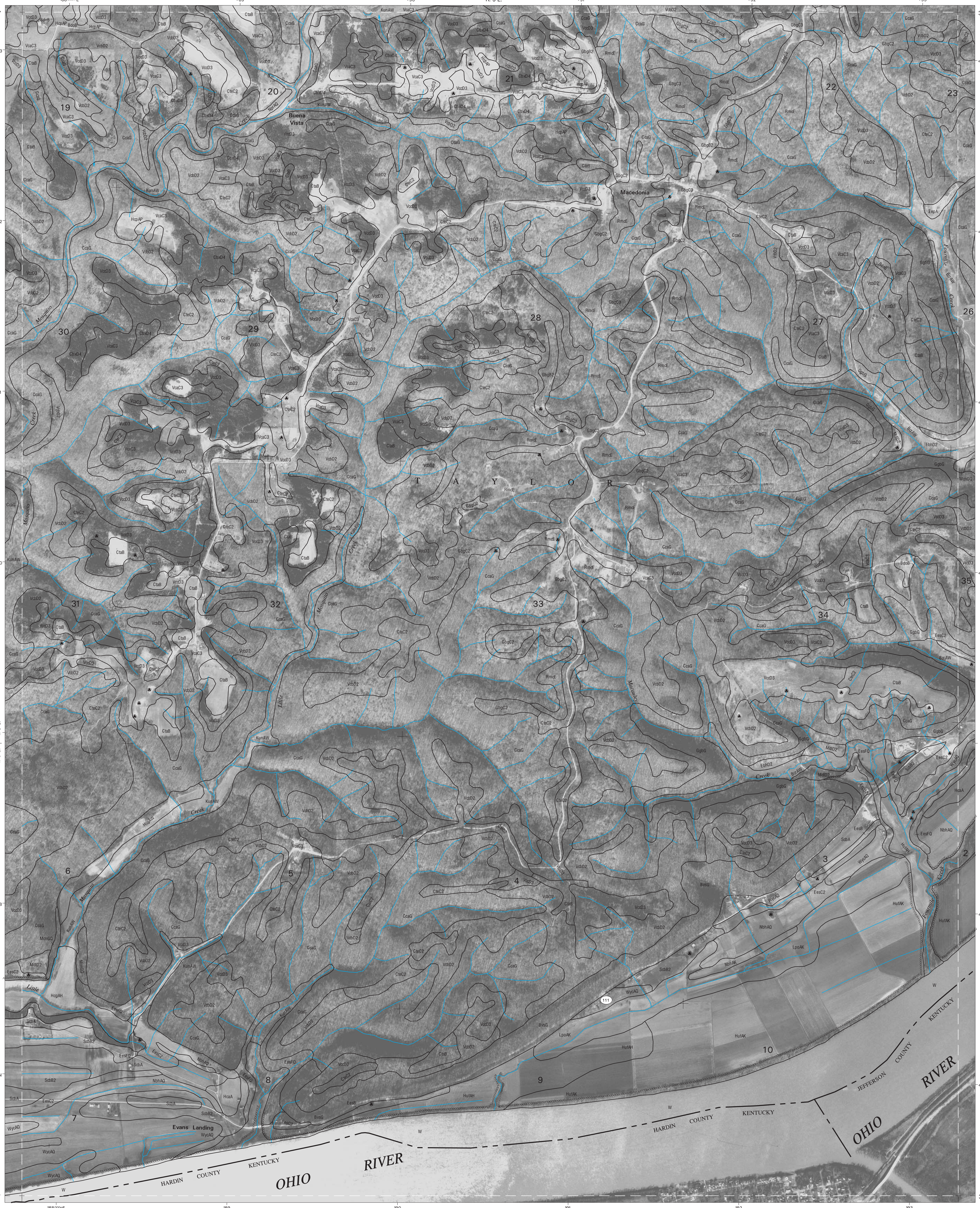
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HARRISON COUNTY, INDIANA
KOSMOSDALE SW QUADRANGLE
SHEET NUMBER 44 OF 47



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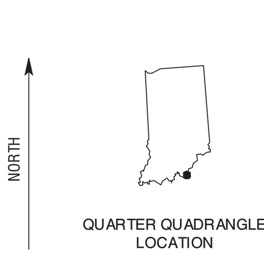
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5

FEET: 500 0 500 1000 1500 2000 2500 3000 3500

KILOMETERS: 0.5 0 0.5

36	37	38
43		45
47	A	B

36 LACONIA NE
37 KOSMOSDALE NW
38 KOSMOSDALE NE
43 LACONIA SE
45 KOSMOSDALE SE
47 ROCK HAVEN NE
A FORT KNOX NW
B FORT KNOX NE

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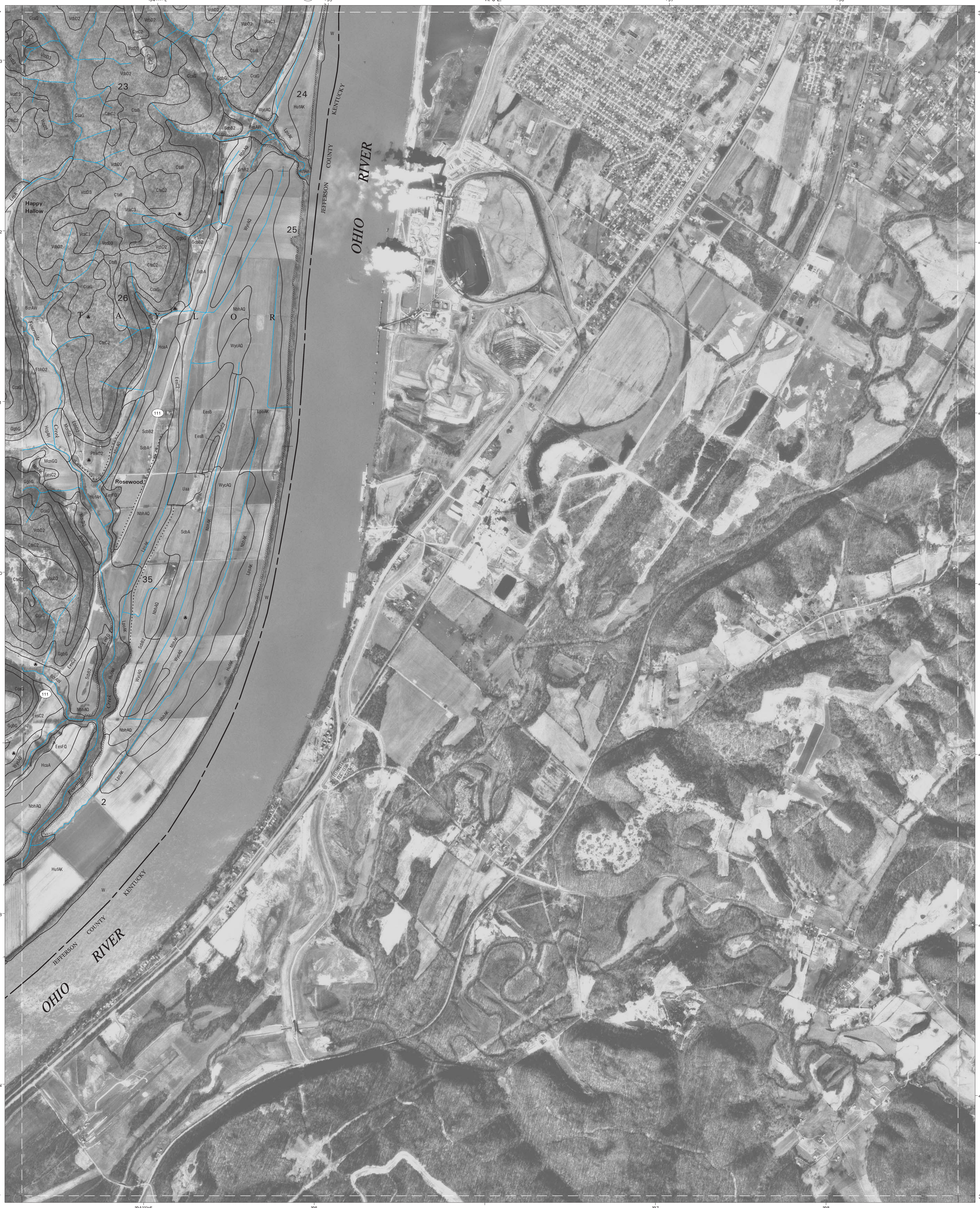
KOSMOSDALE SW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 44 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUARTER QUADRANGLE LOCATION

SCALE 1:12000

0.5 0 0.5 MILES

500 0 500 1000 1500 2000 2500 3000 3500 FEET

0.5 0 0.5 KILOMETERS

37	38	A
44		B
C	D	E

37 KOSMOSDALE NW
38 KOSMOSDALE NE
A VALLEY STATION NW
44 KOSMOSDALE SW
B VALLEY STATION SW
C FORT KNOX NW
D FORT KNOX NE
E PITTS POINT NW

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KOSMOSDALE SE, INDIANA

3.75 MINUTE SERIES
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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
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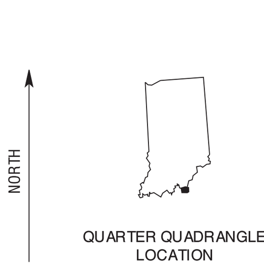
HARRISON COUNTY, INDIANA
ROCK HAVEN NW QUADRANGLE
SHEET NUMBER 46 OF 47

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S.Department of Interior, Geological Survey, from 1998 aerial photography. Culture information public land survery system (PLSS) information were acquired from the U.S.Department of interior, U.S.Geological Survery. The culture layer was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES

FEET

KILOMETERS

41	42	43
A		47
B	C	D

41 MAUCKPORT SE
42 LACONIA SW
43 LACONIA SE
A GUSTON NE
47 ROCK HAVEN NE
B GUSTON SE
C ROCK HAVEN SW
D ROCK HAVEN SE

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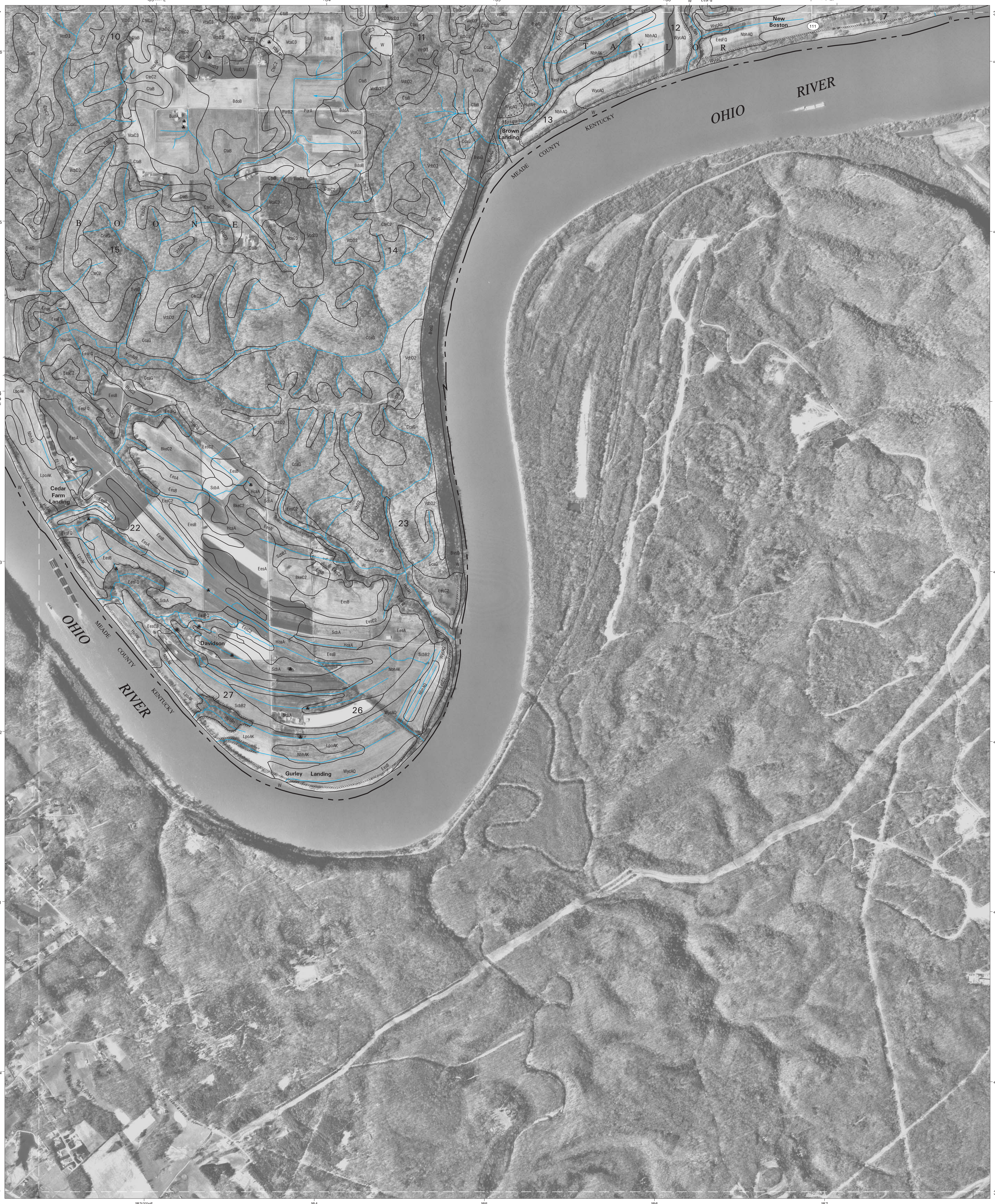
ROCK HAVEN NW, INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 46 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



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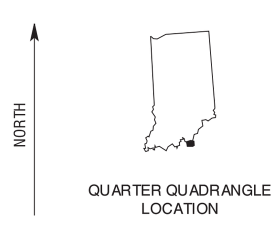
North American Datum of 1983 (NAD83). GRS - 80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUARTER QUADRANGLE LOCATION

SCALE 1:12000

MILES: 0.5 0 0.5
FEET: 500 0 500 1000 1500 2000 2500 3000 3500
KILOMETERS: 0.5 0 0.5

42	43	44
46		A
B	C	D

42 LACONIA SW
43 LACONIA SE
44 KOSMOSDALE SW
46 ROCK HAVEN NW
A FORT KNOX NW
B ROCK HAVEN SW
C ROCK HAVEN SE
D FORT KNOX SW

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ROCK HAVEN NE, (OVERSIZED) INDIANA
3.75 MINUTE SERIES
SHEET NUMBER 47 OF 47

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.